Test date Op t	type Transaction hash	GasUsed (unit) Ga	sPrice (wei) Final co	ost €	Average gas	Average wei A	verage cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-05	-1 0x5b9398a1dce181cb213fc795774a63468fd8896692384898b7694257c677eadd	1692477		000014199653545605	1692477		0.0000001471600458362	Contract creation	0xf589c5b6379238De28455A2F9B8366978914D6B0	€1,525.43
2023-02-05	-1 0xe31a930800198e29d581da99319c49c722d4d8235b151bee68fc3a379f8c3c51	1692477	59 € 0.000	000015232355621649				Contract creation	0x02E41C57fD9Be838CD122053D43D8725ABa5f4b5	
2023-02-05	-2 0xe7fbd4c8b5958d0361ca36ca0e7c1ed5429f771b329c6d3c64177f18e1ffd96d	67153	51	€0.000000005	67153	51.33333333	€0.00000000	5		
2023-02-05	-2 0x4fe2d7de37cc4d977650745f97f44635288e072c80662f94d64a45fe87102ba2	67153	52	€0.000000005				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-05	-2 0x0f32bfd6dd41f482473d58219e13954026930d0c3da570476ff3f42465b386e2	67153	51	€0.000000005				· ·		
2023-02-05	-3 0xebb5e11ee419dff9f17cef5183c4e2d69e859b53fdbe61d63b466efcd029ed46	67153	55	€0.000000006	67153	54.66666667	€0.00000000	Transactions for storing public key readers (actors). One for each of the		
2023-02-05	-3 0xdcf859425a4c454fdd057ae2f38dc3b730c1d4f823d2b241bd3aa78ef08d21ce	67153	55	€0.000000006				users (manufacturer, supplier1, supplier2) main		
2023-02-05	-3 0xb59d9a15966625cce7139bc172076cb8b16e9ac491da4cfaed521bb633508212	67153 67533	54	€0.000000006 €0.000000005	67533	51.2	€0.00000000			
2023-02-05	1.2 0xdc561d89fbccbf17799cf848dc8eeed4362454471bffa15fe592f172ab840113 1.2 0xf0637f47099c5f22c8627c3b86d96bcf911a6721d86e7fb61070bf30b5cec36f	67533	50	€0.0000000005	6/533	51.2	€0.00000000			
2023-02-05	1.2 0x20c3/14/099c5122c862/c3086d960cf911a6/21086e7f0610/00f3005cec36f 1.2 0x221c1ada61f3a7f506c78d63c32c57cd0f3feb3217c11b7aa81208d988a7fb72	67533	50 51	€0.000000005				Transactions for the storage of the user's attributes. Action 1.2 of the		
2023-02-05	1.2 0xd2f4c8f2e1f9a08074fb1fa96804daaf397cfbf2204d0a61c915048a8c9a9728	67533	52	€0.000000005				MARTSIA approach		
2023-02-05	1.2 0x73a4a4e34dc8385c733f9a32d64b3d9192e5cab2ba31b18ca4ba60a462b689f1	67533	53	€0.000000005						
2023-02-05	0.1 0x0a111bd7a6ffdb00c6a08ef382b4f4fc5f8e390f409c08ecdf2bc002806f1413	67755	52	€0.000000005	67755	51.75	€0.00000000	5		
2023-02-05	0.1 0xb2ab1b3c57f2456c7f8c2d28d2ab9b9787dd827f202463e95cb6b776191d4f0a	67755	51	€0.000000005				Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-05	0.1 0xec2e82bbfd2c8ef177b0a7971cb5ce4bb5e8dcf97d838471e758fd5831fd5cfe	67755	52	€0.000000005				authorities (each of them: one transaction per authority)		
	0.1 0xac1b4ca334c02303cb874778aff8c8290f91a8cab3c1d2f3dad5435d6ef8b7b5	67755	52	€0.000000005						
	0.2 0x9e683214bcbdb2f710c702746d163d7ea6935e10f5b81d414032d378472b8b8e	113680	54	€0.000000009	113680	53.75	€0.00000000			
2023-02-05	0.2 0xf8cf697b9cb7d638843c3e7ab6a5ee53f997cd74e1c7b7fe5836050dd2ee3b0e	113680	53	€0.000000009				Transactions for the storage of the hashed elements. 0.2 action of the		
	0.2 0xfc1c48dc068dff1f6190cc53700d53f059b59530881045beef42fbbbbad14807	113680	54	€0.000000009				authorities (each of them: one transaction per authority)		
2023-02-05	0.2 0x4887c042cc63549d1cb01df9af340e34bee09fa2ba0253981addd15be151cb40	113680	54	€0.000000009						
2023-02-05 2023-02-05	0.3 0x8f3cbc0577e7ccc0459eed5bebb984213f10d0f60d19fcd8e574fe130c2aa3e2 0.3 0xf4ea672cd34bee7fbd6a08cd0d3d6e886cac9e056bdba07d8834b0d6cb1c85a9	159693 159693	51 51	€0.000000012 €0.000000012	159693	51.75	€0.00000001			
	0.3 0xf475b6896d45ea89935516ed6ff0ef9a6c422ce16149a362d035b166a45dff96	159693	52	€0.000000012				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-05	0.3 0x3f45ab76346e8476a10db88169ad08bbb81acfd88bfd4a6ad695b92dddd19f75	159693	53	€0.000000013						
	0.4 0xa73a91936c4571a9cd0cc37b8a38147a6dba92712b30c79e31f0bf36262f2e5e	67731	52	€0.0000000015	67731	51.75	€0.00000000	5		
	0.4 0x5cbf7fcf7fd57cefcaffe573d3f3cb9033c2f6730b7b27736deffe3e4c3aeecd	67731	51	€0.000000005				Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-05	0.4 0x508dea2e6ca2819627468a4eae27e5bd55e22c54ca16f10578d029da2e38adb1	67731	51	€0.000000005				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-05	0.4 0x83e6023d9e5ccab15ef8d31dd6bb5e8f21e798c870b2039ef20bd85a738e8e31	67731	53	€0.000000005						
2023-02-05	0.5 0x4f31c8016ab203042b5b70ce5a6f492425a18a15e8854cf6e1ca175a6cb37e1c	67688	52	€0.000000005	67688	51	€0.00000000	5		
	0.5 0x9741c913f0a42a5e5547e9841b9c0681c42b52ae94a897d3a0bcbbc04e4c23cb	67688	51	€0.000000005				Transactions for the storage of the public keys. 0.5 action of the		
	0.5 0x12555f50b47b52ed3a6c86ba6504f9a8065ae72ca27f218887e428fb71a87dbd	67688	50	€0.000000005				authorities (each of them: one transaction per authority)		
2023-02-05	0.5 0x4dbaca6f19af50af341380e1bfe0d1a352d6f6811464e27c1e3eab394a0b3c4f	67688	51	€0.000000005						
	2.4 0xe0663a4475007a572f3d9857ef0ce0a5ecedfc3f64c3ebd1394c596ac7e96ce4	89772 89772	55	€0.000000008	89772	55.4	€0.00000000	3		
	2.4 0xd76347c3152e47fa299b9d27dea33e0bf5229356641027e6badfa825d00370fd 2.4 0xd0f345246e43f356f49e302000677c52f4daac0ee5136cb978073eb17ef5c627	89772	54 56	€0.000000007 €0.000000008				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA		
	2.4 0x209b4d1acd5b14be77d1d00b42cf0b07de999144bbb4fdd294c54e211ae0fad1	89772	56	€0.000000008				approach		
	2.4 0x19339b05cd3da213519a2c2891e4c263db6957358366b45e242e280fda39d169	89772	56	€0.000000008						
	1.31 0xd8a6676de6f142271bacaaed860b29917ba457d3cdbb9d8e6321d9ef620914b4	21848	54	€0.000000000	21848	55	€0.00000000	,		
	1.31 0x6dd414e163564a7d945ed9950a029456f3192dfdd8fbce135732708d28a88518	21848	56	€0.000000002	-1010			Transactions for requesting the key via blockchain (one line per		
2023-02-05	1.31 0xf4cf65e136eebb02883a7ad69fe63508675835d5e4d295ada96e9ebfad6e1e67	21848	55	€0.000000002				authority)		
2023-02-05	1.31 0xd1515f50c2043a1c76b01e53d90f03a538d1085d99e1557a139cfec8080ed5c3	21848	55	€0.000000002						
	1.31 0xd1515t50c2043a1c76b01e53d90f03a538d1085d99e1557a139cfec8080ed5c3 1.32 0x824222a758783111acd94f6fd1a17afc45131c8fd39d8ea6bbb837ca0157a29e	21848 22072	55 55	€0.000000002 €0.000000002	22072	56.25	€0.00000000	2		
2023-02-05 2023-02-05	1.32 0x824222a758783111acd94f6fd1a17afc45131c8fd39d8ea6bbb837ca0157a29e 1.32 0x60e3579c212cca6a6f083e2e70552d21cf508d5a1a966bcdc4e0e28d58f7d14f	22072 22072	55 56	€0.000000002 €0.000000002	22072	56.25	€0.00000000	2 Transactions for key return (one line per authority)		
2023-02-05 2023-02-05 2023-02-05	1.32 0x824222a758783111acd94f6fd1a17afc45131c8fd39d8ea6bbb837ca0157a29e 1.32 0x60e3579c212cca6a6f083e2e70552d21cf508d5a1a966bcdc4e0e28d58f7d14f 1.32 0xf2d20003f8541e52cae1c966a53680947a7987f74e082ff0add764a188f73ab5	22072 22072 22072	55 56 54	€0.000000002 €0.000000002 €0.0000000002	22072	56.25	€0.00000000	2 Transactions for key return (one line per authority)		
2023-02-05 2023-02-05 2023-02-05 2023-02-05	1.32 0x824222a758783111acd94l6ld1a17afc45131c8ld39d8ea6bbb837ca0157a29e 1.32 0x800a5579c212cca8a8f083e2e70552d21cf808d5a1a986bbcdc4e0e28d587d14lf 1.32 0x4220038841e82cae1c66658580947a78774e082f08adf4a188f73ab5 1.32 0x1a3c8767c10b77c211bb5741faba5cea593de48daa78cef1b777eb0006be7270	22072 22072 22072 22072	55 56 54 60	€0.000000002 €0.000000002 €0.000000002						
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 \(\text{\congruence}\) \(\congruen	22072 22072 22072 22072 22072 1692477	55 56 54 60 2477	€0.000000002 €0.000000002 €0.000000002 €0.000000002	22072 1692477		€0.000000000 0.0000076583519597343	2 Contract creation	0x450B6bE20dbd2bl2F50183d0859bd5421F0D3A34	€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06	1.32 0x6424223a788783111acd944f614137afc45131c8f43948ea8bb837ca0157a29e 1.32 0x6063579c212ca68e8083e2e70552d21cf08d5a1a968bbc37ca0157a29e 1.32 0x762300398541e82cae16968a53880947a789774e692f08dd7464188873ab5 1.32 0x163c8767c10b77c211bb5741faba5cae8593de48daa78ceft19777eb0006be7270 1.0xc044b764026abf08a86fae18da9d886b688b88b3a73d325beb3500e469861 1.0xb06bb7c684ec5353dd2b5c831e86d7e0f2c5ea65551e6aa4d62198390178d82	22072 22072 22072 22072 22072 1692477 1692477	55 56 54 60 2477 3502	€0.000000002 €0.000000002 €0.000000002 €0.000000345 €0.000008971	1692477	2989.5 €	0.0000076583519597343		0x45086bE20dBd2bf2F50183d0859bd5421F0D3A34 0x8cF38d67c8d3DdaB813bd087C45CFa6172796C35	€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06 2023-02-06	1.32 0x824222a785783111acd94f6fd1a17afc45131c8fd39d8ea8bbb837ca0157a29e 1.32 0x6603579c212cca86d6133c2e70552d21cf508d5a14966bbc04e0c28d587d14f 1.32 0xfd2003058541652cae16568369047a7897140e20f8da0f74a188873ab5 1.32 0x1a3c8767c10b77c211bb5741faba5cca59304e48daa78cef1b777eb0008be7270 -1 0xx0f4b7764028bbf06a8dfee15da9d68bc585fl8dbb37d3257eb5550e486e81 1.02 0x1a3c8767c10b77c211bb5741faba5cca59304e48daa78cef1b777eb0008be7270 -1 0xx0f4b7764028bbf06a8dfee15da9d68bc585fl8dbb37d3257eb5550e486e81 1 0xbd6bb7c48c4533ddc52c5e168de47de726a857fedaa4df278d8901768d2 2 0x50811e075039ea4afdb8339971ddf644465eac8eab3d1c52111da9e35dd3cd47	22072 22072 22072 22072 22072 1692477 1692477 67153	55 56 54 60 2477 3502 5048	€0.000000002 €0.000000002 €0.000000002 €0.000000002 €0.000006345 €0.000008971 €0.00000513				Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06 2023-02-06 2023-02-06 2023-02-06	1.32 0x6424223/r5878311140094f6fd1417afc4615131c8fd3948ea8bb837ca0157a29e 1.32 0x6083796212ca68a6f033e2e70552d21cf508d5a1a868bb0437ca0157a29e 1.32 0x628200398541e52cae16686a53888947a789774e692f08ad9749418877a65 1.32 0x13628767109772211b657416a56ca69530e4894a789774e692f08ad97491777e50006be7270 1.0cx0444974062a69108a38894618489485084587632f25e5050e469861 1.0cx0464974062a69108a389497485486485648555166a44d65198390178d82 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea3041625111d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063339971dd64d495ea26ea304162511d486265d35492 2.0cx0681e7075039ea448063399971dd64d495ea26ea30416251046692 2.0cx0681e7075039ea448063626966906906906906906906906906906906906906	22072 22072 22072 22072 22072 1692477 1692477 67153 67153	55 56 54 60 2477 3502 5048 5166	€0.000000002 €0.000000002 €0.0000000002 €0.000000002 €0.000006345 €0.000008971 €0.00000513	1692477	2989.5 €	0.0000076583519597343	Contract creation Contract creation		€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06 2023-02-06	1.32 0x824222a785783111acd94f6fd1a17afc45131c8fd39d8ea8bbb837ca0157a29e 1.32 0x6603579c212cca86d6133c2e70552d21cf508d5a14966bbc04e0c28d587d14f 1.32 0xfd2003058541652cae16568369047a7897140e20f8da0f74a188873ab5 1.32 0x1a3c8767c10b77c211bb5741faba5cca59304e48daa78cef1b777eb0008be7270 -1 0xx0f4b7764028bbf06a8dfee15da9d68bc585fl8dbb37d3257eb5550e486e81 1.02 0x1a3c8767c10b77c211bb5741faba5cca59304e48daa78cef1b777eb0008be7270 -1 0xx0f4b7764028bbf06a8dfee15da9d68bc585fl8dbb37d3257eb5550e486e81 1 0xbd6bb7c48c4533ddc52c5e168de47de726a857fedaa4df278d8901768d2 2 0x50811e075039ea4afdb8339971ddf644465eac8eab3d1c52111da9e35dd3cd47	22072 22072 22072 22072 22072 1692477 1692477 67153	55 56 54 60 2477 3502 5048	€0.000000002 €0.000000002 €0.000000002 €0.000000002 €0.000006345 €0.000008971 €0.00000513	1692477	2989.5 €	0.0000076583519597343	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2, key_on_block		€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06 2023-02-06 2023-02-06 2023-02-06	13.2 0x6424223/r8783111400494f014117afo451511c8fd39d8ea8bbbb837ca0157a229e 13.2 0x602579c212ca68e80582e270552d21cf03063a1a86b0bb837ca0157a229e 13.2 0x6262000396541e852ea16966a53880947a789774e692f030d3764418873ab5 13.2 0x1a3c8787c10b77c211bb5741ba5c6a853de49da78ceftb777eb0006be7270 1 0xc0f44b764026ab106aa8faeb18da9d86bcb685fb8db3a7d325be03500e469861 1 0xb00bb7c684ec5355dd2b5c281e88d7e0f2c5ea85551e4ad402198390178d82 2 0x5081e3075039ea4s46b8339971dd644495eac8ea33d1622f11dd8e35d35d47 2 0x6726822331aea83f073ad4078f0832cc9f0sec3798be2cc94f909a52c915e9bd 2 0xca26a312262c5e6337t227ca8352baecf14808005086298bcb0863311f709f23	22072 22072 22072 22072 22072 1692477 67153 67153 67153	55 56 54 60 2477 3502 5048 5166 4783	€0.000000002 €0.000000002 €0.000000002 €0.000000002 €0.000006345 €0.000008971 €0.00000613 €0.000006525 €0.000000486	1692477 67153	2989.5 € 4999	0.000076583519597343; €0.0000050	Contract creation Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06 2023-02-06 2023-02-06 2023-02-06 2023-02-06 2023-02-06 2023-02-06	1.32 Ubs24222a7s58783111ac0494f611a17afc45131c8fc19348ea8bb837ca0157a22e 1.32 Ubs263759c212cc6s68f033e2e70552421cf50865a1a868bb637ca0157a22e 1.32 Ubs263759c212cc6s68f033e2e70552421cf50865a1a868bb637ca0157a269 1.32 Ubs263767c10b77c211bb5741ba5cc6s95304e48aa78ceft19777eb0008be73 1.32 Ubs263767c10b77c211bb5741ba5cc6s95304e48aa78ceft19777eb0008be73 1.32 Ubs26767c10b77c211bb5741ba5cc6s95304e48aa78ceft1977eb0008be73 1.32 Ubs26767c9062abf063a8f6aa7ba52be53054a78325be53050e48961 1. Ubs06bb7ce84ec53336d2562e31e88de70c2c6aa5551fecdaa4662198390178d62 2. Ubs269f16705308ea4df083393017d6444659ea5aa5d1dc52f11d66965d53c447 2. Ubs767e6622331aeaa3f0f3ad4078f0832cc696cc579b6-2c44f680452e355be64 2. Ubs269f1670578c2654554545454545454545454545454545454545	22072 22072 22072 22072 1692477 67153 67153 67153	55 56 54 60 2477 3502 5048 5166 4783 4198	€0.000000002 €0.000000002 €0.000000002 €0.00000002 €0.000008345 €0.00000871 €0.000000525 €0.00000486 €0.00000427	1692477 67153	2989.5 € 4999	0.000076583519597343; €0.0000050	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2, key_on_block		€1,513.81
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2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 \(\text{\text{Dt244222}\)\text{\text{27878783111}}\)\text{\text{278786782111}}\)\text{\text{27878782111}}\)\text{\text{2787878211200496671417676264513166656376666577644}}\) 1.32 \(\text{\text{\text{0787879621200486326267576464}}\)\text{\text{2787867962712004867476662766665767444}}\) 1.32 \(\text{\text{07878767676271105772411057416ab5coa63936480a878661777660006667273}\) 1.32 \(\text{\text{0787876767676772110577416ab5coa63936480a878661777660006666661}\) 1. \(\text{078786767660666666666666666666666666666	22072 22072 22072 22072 22072 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533	55 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5428 7085	€0.00000002 €0.00000002 €0.00000002 €0.000000034 €0.000000814 €0.00000814 €0.00000814 €0.00000814 €0.000000427 €0.00000057 €0.0000057	1692477 67153 67153 67533	2989.5 € 4999 4069	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the		€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bb.42422a/S67833111ac04H6f01a17afo161511cH6f03486aa8bb6837ca0157a2be 1.32 (br.619376721cloca64807834575055241cf0868451a69bb6437ca0157a2be 1.32 (br.619376712cloca64807834575055241cf0868451a69bb6437ca0157a2be 1.32 (br.619376716077c211b65741ba5cca6393de480a876e1b777e60006be7270 1.32 (br.6193767667c211b65741ba5cca6393de480a876e1b777e60006be7270 1.32 (br.61937676067c211b65741ba5cca6393de480a876e1b777e60006be7270 1.32 (br.6193762606466353640562e31e68647607c5a6a5551edaa4692198390176862 2. (br.61946653356086a46b6839377d6644695e66265054074768590176862 2. (br.6194667636864646769837766464495e662665061646761668565646474 2. (br.719368263131ae40716786382656966646546146760852c2165664) 2. (br.619467646464666666766666465466666666666666	22072 22072 22072 22072 22072 22072 23072 1892477 189247	55 56 54 60 2477 3502 5048 5168 4783 4198 3603 4406 5762 5575 5426 7085 22241 20130 18943	€0.00000002 €0.00000002 €0.00000002 €0.00000003 €0.00000084 €0.00000871 €0.00000672 €0.00000427 €0.00000427 €0.00000585 €0.00000585 €0.00000585 €0.00000585 €0.00000585 €0.00000585 €0.00000585 €0.00000585 €0.000005724 €0.000005724	1692477 67153 67153 67533	2989.5 € 4999 4069	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 Usb24222a7s58783111 acon44f6f1a17afa61513 cleft(9348ea8bb837ca0157a22e 1.32 Usb263579c212cca6a6f083e2e78552d21cf50865a1a968bb637ca0157a22e 1.32 Usb263579c212cca6a6f083e2e78552d21cf50865a1a968bb637ca0157a26e 1.32 Usb263767c10b77c211bb5741faba5cca6935de48ba378cef1b77reb0006be7277 1.00cc/fd4b77602a6bf063a8feate forba69486bc868b68b63bc37a525eb5906496961 1.00cb06b77c96be65335dc255c931e88cef7c97c26aa5551fectaa4bf2198390178d82 2.00c5861e075038ea4afdb83339971dd64644695eac8eabd1d1c521f1da6e55dc3c447 2.00c58622331aeas03f03add478f08332cc69ece579b62c1e4f690352cef16e96d 2.00c2e2a512c2c26ef337z27cea552cbaecf16880cf086298cb068331f1c709f23 3.00c7763d56aed6af8b60866965ec27a7642007ff85dc36254bf413d5b6761ce 3.00c7763d56aed6af8b60866965ec27a7642007ff85dc6254bf413d5b6761ce 3.00c3675f3c5212de466dc4f8867566c683d531f365606e3e286cb670037083578f 1.2 Usb2673565cb60868b6083dc175669as50589650c60033248e5cafa92228ccce9d 1.2 Usb267356cb60868b6083dc175669as5058f5cc50033248e5cafa92228ccce9d 1.2 Usb267356cb60868b6083dc175669as5058f5cc50033248e5cafa92228ccce9d 1.2 Usb267356cb60868b6083dc175668b350f16cb6086b60823b325cc06868b5 2.00c6973656cb6094076c6827c6945645645646486064680523632bce0680855 2.00c6973656cb6094076c6827c69456456464860046865626507007083578ff 2.00c6973656cb6094076c6827c6945645646486004686567006708685761666666666666666666666666666666666	22072 22072 22072 22072 22072 22072 1892477 1892477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533	55 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5426 7085 22241 20130 18943	60,00000002 60,00000002 60,000000002 60,000000003 60,00000051 60,0000051 60,0000051 60,0000052 60,00000053 60,00000058 60,0000058 6	1692477 67153 67153 67533	2989.5 € 4999 4069	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbs/4222ar/S87831111aod94f6tfs11a7lafs1511cfs139d8ea8bb837rao1157a2be 1.32 (brs.69a57c750552art56986a7t54) 1.32 (brs.69a57c7512coa6a68083ex750552art56986a7t6) 1.32 (brs.69a57c75052art56986a7t64) 1.32 (brs.69a57c71cb77c211bc5741bc5647a63c50647a7897774c082f0bcd774a18877ab5 1.32 (brs.36a57c71cb77c211bc5741bc5647bc36530648bc37a52cbe50506469e1 1. (brs.60a57c646c5353dc55c241e8647c7bc7c5a65551bc6a4d62189301786bc2 2. (brs.69a67c5306a44bc83397d6d44695ea6cb63047a572bc59505646664 2. (brs.79a6822331aea80103a4d778f0832cc69bce378bc2c94f080a52ce1656d3cd47 2. (brs.79a6822331aea80103a4d778f0832cc69bce378bc2c94f080a52ce1656d3cd47 2. (brs.79a6822331aea80103a4d778f0832cc69bce378bc2c94f080a52ce1656d3cd47 2. (brs.79a6822331aea80103a4d778f0832cc69bce378bc62c94f080a52ce1656964 3. (brs.79a652a31aea80103a4d778f0832cc69bce378bc6254fbf336bc9bc9bc365696e224bc9bc9bc9bc9bc9bc9bc9bc9bc9bc9bc9bc9bc9b	22072 22072 22072 22072 22072 22072 22072 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67535	55 56 64 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5426 7085 22241 20130 18943 18943 18903	€0.00000002 €0.00000002 €0.00000002 €0.00000002 €0.000000034 €0.00000814 €0.00000814 €0.000000487 €0.000000589 €0.000000589 €0.000000589 €0.000000589 €0.000000589 €0.000000589 €0.000000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589 €0.00000589	1692477 67153 67153 67533	2989.5 € 4999 4069 9217.8	0.0000078583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the transactions for the storage of the hashed elements. 0.2 action of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbt.24222a7s57833111ac04H6f0f1a17afot-61511cleff03948ea8bbb837ca0157a22h 1.32 (br80a5759c212co48e80f0382e2705562421cf508d5a1ab68bb837ca0157a22h 1.32 (br80a5759c212co48e80f0382e2705562421cf508d5a1ab68bb837ca0157a26h 1.32 (br13a56767-10b77c211bb5741ba56ce38930e480a37ee1f077eb002bb873a55 1.32 (br13a56767-10b77c211bb5741ba56ce38930e480a37ee1f077eb000b875a15 1.0 (br064b767062a0660a86fbea1f03696bb678b58b60347a3759b65050e4696961 1 (br06bb7ce84ec3333d2f2562a1e88d470f2c6aa5551edaa4b62189390178d82 2 (br068e1f076030ea4a46b833971d6d44465eac6ba501dcs2f14d6a965d3c347 2 (br36726e822331aeaa3f073a44078f0832cc696cc378b62c244f690a52c915e8b4 2 (br062a81522c26e63787227cea352cbaecf4680c069829a60b6331H7069263 3 (br3769365a36d469189363b69474335926379a64056831H70692636363647 3 (br3769365a36d4691893604694636956965650464474) 1 (br3679365a3646486806866666666666666666666666666666	22072 22072 22072 22072 22072 22072 1692477 169247 16	55 56 54 60 2477 3502 5048 5166 4783 4198 3803 4408 5762 5575 5426 7085 22241 20130 18803 18103 18013	60,00000002 60,00000002 60,00000002 60,000000002 60,000000034 60,000000816 60,00000817 60,00000817 60,00000868 60,000000486 60,000000486 60,00000055 60,000000486 60,00000055 60,0000055 60,0000055 60,00000055 60,00000055 60,000055 60,000055 60,000055 60,000055 60,000055 60,00005 60,0005 60,00	1692477 67153 67153 67533	2989.5 € 4999 4069 9217.8	0.0000078583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 Ups242223/TS67833111300949014113761645131c96193098ea98bb837ca01573229e 1.32 Ups263279c212cca6ae98382e276552d21cf508d5a1a968bb637ca01576229e 1.32 Ups26320398541e52cae16696a53880947a98774e692610ad077e4a18873ab5 1.32 Ups26327610b77c211bb67416ba6cae5930de48baa78ce1fb777eb0000be7270 1.00c04fb47670628061068a9861e4586930de48baa78ce1fb777eb0000be7270 1.00c04fb47670628061068a9861e45808500de48baa78ce1fb777eb0000be7270 1.00c04fb47670628061068a9861e45808500de48baa78ce2fb80006496961 1.00c04bb7ca64ec535360db562931e88647607c06ae55516c6aa4db2189300176082 2.00c5961e6750336ea4afdb8339971d6644495eac8eabad1cc5211fd86925d06462 2.00c59622331aeae30f03ad407810832ce36ece2705be26249f6906322015e60d 2.00c596233137227cea5352dbaecff68000689298cb06b3311fc709f23 3.00c59675313640469169331004763326287996045980450852015e60d 3.00c59675313640469169331004763326287996474308be1761ce 3.00c59675345504668f680036056956cc7876742007ff86d06254641368be1761ce 3.00c59675345504668f680036056956cc7876742007ff86d06254641368be1761ce 1.20c5967565504599200580038017566986595955cc5003324a865ca6867808181 1.20c38506627504590200580038017566986595955cc5003324a865ca687802268cce68d 1.20c4850746750000462068311550934386041866670007088379ff 1.20c485074675000004620683115509343860161866670007088379ff 1.20c485074675000004020683115509340884016041866670007088379ff 1.20c4850746750000040206683155090488865677272786068605965066677077398779f6 1.20c4850746750000402066831550904888656772726968065066677727396719035 1.00c4845035060004506683115006666660507470906666660606677739967130666677727396719035 1.00c484508506666000466664504646790053065656653356c690064687863146666660007468600466666606464790053065656653356666567787396719086366660006666666666666666666666666666	22072 22072 22072 22072 22072 22072 22072 22072 1892477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67553 67555 67755 67755 113680	55 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5428 7085 22241 20130 18943 18033 18013 18075 23129	€0.00000002 €0.00000002 €0.000000002 €0.000000003 €0.000000034 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000053 €0.00000154 €0.000001847 €0.000001847	1692477 67153 67153 67533	2989.5 € 4999 4069 9217.8	0.0000078583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the transactions for the storage of the hashed elements. 0.2 action of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bb.842422a/S67833111ac04H6f01f1a17afa61531c16ff3948ea8bb6837ca0157a2be 1.32 (br.869a57c212coa6a8p683a5c955632c14c5084a51a6b6b645c4ea2645f7614f 1.32 (br.869a57c12coa6a8p683a5c955632c14c5084a51a6b6b645c4ea2645f7614f 1.32 (br.869a57c16b77c211b65741ba55ca8593de48baa78ce1b77reb000b6b727b 1.32 (br.869a57c16b77c211b65741ba55ca8593de48baa78ce1b77reb000b6b727b 1.32 (br.869a57c36b628b66a88fba61ab6d865b658b65bb637a525be5b5064e69b61 1 (br.869b67ca86b6a5358db62c3e1e86d7c0fc26aa5551edaa4b62189300178682 2 (br.86981ca76369ea4b668339c47d6d44695ea6b6a5d7a525be5b505646964b 2 (br.869b67ca76369ea4b668339c47d6d44695ea6b6a5d1dc2f11d6a96565d5d447 2 (br.876a6823311aea4017ba44078f8032cc609cc5708bc2c44f800a52c216b6d 2 (br.869b67ca13dd4e61699310bd794c38bc26a79b6739ea4f5s6178c2ce25d55ea 3 (br.763d56ae6ds6b6056d636565b6c27ar7842c07ff80d625c94b13d5b67f3 tea 3 (br.7763d56ae6ds6b6056d636565b6c27ar7842c07ff80d625c94b13d5b67f3 tea 1 (br.8657ca13dd4e61699310bd794c38bc26ar96b6739ea4f5s6178c2ce25d55ea 3 (br.7763d56ae6ds6b6068d6365d5f65c27ar7842c07ff80d625c94b13d5b67f3 tea 1 (br.8657ca13dd4e616993113f58c66d8a65b655b606bebc26d67f66176083c27ar7842c07ff80d625c94b67d60468564b67d66176564b67d66464664b67d694664664b67d694664664b67d694664664b67d694664664b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d69466464b67d694664664b67d69466464b67d694646464b67d694646464b67d69466464b67d69466464b67d69466464b67d694664664664b67d694664664664b67d69466464b67d6946646646646646646646646646664664664664	22072 22072 22072 22072 22072 22072 22072 23072 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 18924	55 56 56 56 50 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5426 7085 22241 20130 18803 18803 18013 18075 23129 33856 33502 33248	€0.00000002 €0.00000002 €0.00000002 €0.000000034 €0.000000814 €0.00000814 €0.00000814 €0.000000488 €0.000000488 €0.000000488 €0.000000570 €0.000000570 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847 €0.000001847	1692477 67153 67153 67533	2989.5 € 4999 4069 9217.8	0.0000078583519597343 €0.0000050 €0.00000041 €0.0000094	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the transactions for the storage of the hashed elements. 0.2 action of the		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bst24222arS87833111ac049H60fa1arTarlot5131c8fd3948ea8bb8372ca0157322e 1.32 (bst2632759c212cc6a68f0832e276552421cf50865a1ab68bb637ca0157322e 1.32 (bst2632579c212cc6a68f0832e276552421cf50865a1ab68bb637ca01576264 1.32 (bst263765c21bb6741bb6741bab6ca689504e48baa78ce1ft777eb0008be731ab 1.32 (bst26767c10b77c211bb6741bab6ca689504e48baa78ce1ft777eb0008be731ab 1.32 (bst26767c10b77c211bb6741bab6ca689504e48baa78ce1ft777eb0008be731ab 1.32 (bst26767c10b77c211bb6741bab6ca689504e48baa78ce1ft777eb0008be731ab 1.32 (bst26767c96a6b6363d646467d1bab698be73be85bb60467b60466666464) 1. (bst2676ce1ft76ce1ft76ce1ft666666666666666666666666666666666666	22072 22072 22072 22072 22072 22072 22072 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 18924	55 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5426 7085 22241 20130 18943 18003 18013 18075 23129 33585 33502 33248 33474	60,00000002 60,00000002 60,000000002 60,000000002 60,0000000034 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,0000051	1692477 67153 67153 67153 67533	2989.5 € 4999 4069 9217.8 18922.25	0.000076583519597343 €0.00000050 €0.00000041 €0.0000094 €0.00000194	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbs/4222ar/S67831111aod94f6f611a17af61511clff(3948ea8bb837ra0157a2be 1.32 (brs.69437c21coa6a8b6838-2675562at1cf508643 abe8bb637ca0157a2be 1.32 (brs.69437c21coa6a8b6838-2675562at1cf508643 abe8bb6457eat84585f714f 1.32 (brs.69767c1057r2211b65741fbas5ca89304e48a87abe47b4at188f73abe 1.32 (brs.366767c1057r2211b65741fbas5ca89304e48a87abe47b77eb0006be127b 1.32 (brs.366767c1057r2211b65741fbas5ca89304e48a87abe47b77eb0006be127b 1.32 (brs.366767c1057r2211b65741fbas5ca89304e48a87abe48b5177seb0006be127b 1.32 (brs.696767abe46c53536d2b5c241e8647e7bc7c5aa6551fecbaa4b621e8930178d62 2 (brs.69616763936ae4a4b683397d7d644495eac6ab63d1642f14d684653d3c44b7 2 (brs.7966822331aea80105a440786832cc606cc578be62c49f4060a652c19f6ebd 2 (brs.696167622c664377227c27a5352bae6ef48600682654b6471450962a52655ae 3 (brs.7763d563c66d686b666666666667c7a7647c307f656d62546411366b667666647b696186540646466466646664666466646664666666666	22072 22072 22072 22072 22072 22072 22072 22072 1892477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67553 167555 113880 113880 113880 113880 1159693	55 56 60 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5428 7085 22241 20130 18943 18603 18013 18075 23129 34556 33565 33548 34474 35329	60,00000002 60,00000002 60,00000002 60,00000002 60,00000003 60,00000083 60,00000083 60,00000083 60,00000048 60,00000048 60,00000058 60,00000058 60,00000058 60,00000058 60,00000058 60,00000184 60,00000184 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,00000185 60,0000083 60,0000083 60,0000083 60,0000083 60,0000083 60,0000083 60,0000083 60,0000083	1692477 67153 67153 67153 67533	2989.5 € 4999 4069 9217.8 18922.25	0.000076583519597343 €0.00000050 €0.00000041 €0.0000094 €0.00000194	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bs.24.222a/S5783.111.aco.9446fol.111.7ci.615.11.clift/39.48ea8bb837.ca/1578.2ci.91.20 (bs.69.3579.2c)12.cos.6a.6918.3e2.675.63241.cf50.8d5.111.608bb637.ca/1578.2ci.91.20 (bs.69.3579.2c)12.cos.6a.6918.3e2.675.63241.cf50.8d5.111.608bb637.ca/1578.2ci.91.6774.ci	22072 22072 22072 22072 22072 22072 22072 267153 67153 67153 67153 67153 67153 67533 67553 67765	55 56 64 60 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5426 7085 22241 20130 1803 1803 1803 1803 1803 1803 1803 33474 35329 37580	60,00000002 60,00000002 60,000000002 60,000000003 60,000000003 60,0000000003 60,0000000000	1692477 67153 67153 67533 67755 113680	2989.5 € 4999 4069 9217.8 18922.25 27640.5	0.000078583519597343 €0.00000050 €0.00000041 €0.00000194 €0.00000475	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbt/24223/ar58783111 bac094f6ff 1a1 Tafe.6151 cleft(39486a8bb637 ca01 57a2264 1.32 (br08a3579c212cca6a6f083e2e276552421cf508d5a1a68b6bc3c4ebe28868f7d14f 1.32 (br28a3579c212cca6a6f083e2e276552421cf508d5a1a68b6bc3c4ebe28868f7d14f 1.32 (br28a3579c212cca6a6f083e2e276552421cf508d5a1a68b6bc3c4ebe28868f7d14f 1.32 (br28a366767-101077c211 bb5741faba5cca8593de48bda787ce1fb1777eb0006be7277 1 (brc07d4b7476026bf068a8feaf bd8a968b6085868fb0837a325eb509664966f 1 (br28a568676) (br28a56866868686) (br28a56868686868686868686868686868686868686	22072 22072 22072 22072 22072 22072 22072 22072 692477 67153 67153 67153 67153 67153 67153 67533	55 56 66 54 60 60 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5426 7085 22241 20130 18943 18603 18013 18075 23129 38856 33502 33248 33247 35329 37580 56886	60,00000002 60,00000002 60,000000002 60,000000001 60,00000001 60,00000051 60,00000051 60,00000051 60,00000052 60,00000052 60,00000052 60,00000052 60,00000052 60,00000052 60,00000052 60,00000052 60,00000052 60,00000556 60,000000556 60,000000556 60,000000556 60,000000556 60,000000556 60,000000556 60,000000556 60,000000556 60,00000556 60,00000556 60,00000556 60,00000556 60,00000556 60,00000556 60,00000556 60,00000556 60,00000556	1692477 67153 67153 67153 67533	2989.5 € 4999 4069 9217.8 18922.25	0.000076583519597343 €0.00000050 €0.00000041 €0.0000094 €0.00000194	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (immufacturer, supplier) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bb.842422a/S678733111ac04H6f0f1a17afa6f311cl6ft3948ea8bb6837ca0157a2be 1.32 (br.86)a5767c575c362aft5086843 fabe8bb6437ca0157a2be 1.32 (br.86)a5767c10co74e2f11bc5741ba5cca85304e48ba77a6487ba4574ab57ab5 1.32 (br.86)a5767c10b77c211bc5741ba5cca85304e48ba87bc16777eb0000be7277 1.32 (br.86)a5767c10b77c211bc5741ba5cca85304e48ba87bc16777eb0000be7270 1.32 (br.86)a5767c10b77c211bc5741ba5cca85304e48ba87bc16777eb0000be7270 1.32 (br.86)a6767c306a8b68a8fbe18bd18bd18bd18bd18bd18bd18bd18bd18bd18bd	22072 22072 22072 22072 22072 22072 22072 23072 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 18929 17533 67533 67533 67533 67533 67533 67533 67533 67533 17589 113880 1159803	55 56 54 60 2477 3502 5048 5166 4783 4198 3603 4406 5762 5702 5426 7085 22241 20130 18003 18003 18013 18075 23129 38866 33502 33248 34474 35329 5780 56986 84083	60,00000002 60,00000002 60,000000002 60,000000003 60,00000003 60,00000000000	1692477 67153 67153 67533 67755 113680	2989.5 € 4999 4069 9217.8 18922.25 27640.5	0.000078583519597343 €0.00000050 €0.00000041 €0.00000194 €0.00000475	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-06	1.32 (bst24222a7s57833111ac04946f01a17afo1c5131c8fd3948ea8bb837ca0157a22e 1.32 (bst2632759c212cc6a68f083e2e7b552421cf50865a1a698bb637ca0157a22e 1.32 (bst2632579c212cc6a68f083e2e7b552421cf50865a1a698bb637ca0157a26e 1.32 (bst263759c212cc6a68f083e2e7b552421cf50865a1a698bb637ca01587a55 1.32 (bst263767c10b77c211bb5741faba5cca89504e48ba378caft1777eb0008be73 1.32 (bst263767c10b77c211bb5741faba5cca89504e48ba378caft1777eb0008be73 1.32 (bst263767c10b77c211bb5741faba5cca89504e48ba378caft2b50506e48761 1. (bst06bb7ce84ec3333dd255c201e88c47c07cca6a5551ecdaa4b62198390178d82 2. (bsc261e17o530ea64db63839c41fd644465eac6a5d5145741faba5cc385546c444b62198390178d82 2. (bsc261e17o530ea64db63837b17c2fcea552b6aec14680c008e298cb0b633111c709f23 3. (bs6957c31360ea64d649f09331047e330e28b796439e86b6186250b633111c709f23 3. (bs6957c313646464f96933014b7c330e28b796439e86b61878c648b7869181) 2. (bsc2618565252e66de188b636666ec27ar764207ff965d625464413d6be7f261ec 3. (bsc27f305456266648b80636666ec27ar764207ff965d625464413d6be7f261ec 3. (bsc261755202a66c4277ar768c668363516466666ec070076a83716 2. (bsc261755202a66c4277ar768c4376658656565654666666b676666676666666666666666	22072 22072 22072 22072 22072 22072 22072 26753 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167533 167533 167533 167533 167533 167755 13680 113680 113680 113680 1156963 159693 159693 159693 159693 159693	55 56 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5426 7085 22241 20130 18943 18903 18015 23149 35586 35502 33248 84083 100891	60,00000002 60,00000002 60,000000002 60,000000002 60,0000000034 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,00000051 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052 60,0000052	1692477 67153 67153 67533 67755 113680	2989.5 € 4999 4069 9217.8 18922.25 27640.5	0.000078583519597343 €0.00000050 €0.00000041 €0.00000194 €0.00000475	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (immufacturer, supplier) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bb.42422a7858783111 abod9460141 a Tolico 151 cleft (39,08ea8bb837 abol 157a2be 2.12 (bb.696)875-075-05562a1 cf.0869843 a foebbod-64ea62658761 44 1.32 (br.12 (bb.696)875-075-0552a1 cf.0869843 a foebbod-64ea62658761 44 1.32 (br.12 (bb.696)875-0552a1 cf.0869843 a foebbod-64ea62658761 44 1.32 (br.12 (bb.696)875-016077c2 11 bb.67 41 fbasicosa930de480a878ce11777ee00006be7270 1.0 (bb.696)876-016077c2 11 bb.67 41 fbasicosa930de480a878ce11777ee0006be7270 1.0 (bb.696)876-016076ce11 bb.67 41 fbasicosa930de480a878ce11777ee0006be7270 1.0 (bb.696)876-0160846653536401562e3 1 e86847607.05aa655 1 feclarad db.21 8939017 8982 1.0 (bb.696)876-0380ea4a468339377 didd44496see.05ab631 dc.2511 db.69654303424 2.0 (bb.796)886-038098ea4468339377 didd44496see.05ab631 dc.2511 db.69654303424 2.0 (bb.796)886-038098ea4468339377 didd44496see.05ab631 dc.2511 db.69654303424 2.0 (bb.796)886-038098ea4468393937 didd44969see.05ab631 dc.2511 db.69654303424 2.0 (bb.796)886-038098ea4468393937 didd449689ea69082986083911769062254164 2.0 (bb.796)886-038098ea4686839365866864608698286608938117690622541617690622654161769062986968640860866866686668666866686668666686	22072 22072 22072 22072 22072 22072 22072 23072 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 18927 18928	55 56 56 56 56 56 50 2477 3502 5048 5166 4783 4198 3603 4406 5762 5755 5426 7085 22241 20130 18803 18013 18075 23129 33502 33502 33548 3474 35329 37580 5098 84083 100891 2089530	€0.00000026 €0.00000034 €0.00000035 €0.0000035 €0.00000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.0000035 €0.00000035 €0.00000035 €0.00000035 €0.00000035 €0.00000035 €0.00000035 €0.00000035 €0.00000000000000000000000000000000000	1692477 67153 67153 67533 67555 113680 159693	2989.5 € 4999 4069 9217.8 18922.25 27640.5 34907.75	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094 €0.00000194 €0.00000475 €0.00000843	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bs/24223/a758783111 acos446folf int Tarlot 1511 cleft/3948ea8bb8372ao1157a22e 1.32 (bs/2635795212cos6a6f0832e276552421cf508d51a168bb6372ao1157a26e 1.32 (bs/2635795212cos6a6f0832e276552421cf508d51a168bb6372abb8576714f 1.32 (bs/2635795211bb6741bb6741ba5cos6395048d0a77ae2f08d0a77ae1877ae6026f08d67161 1.02 (bs/264576026a0f08a68felaef0a8586bb63856bb637a7325e5b63506469661 1.02 (bs/264576036a0f08a68felaef0a856bb65856bb6357163bc467256ba5653646676 2.0 (bs/264576308ea4668339747d6444656ea668bc361452f1546684656304647 2.0 (bs/264676308ea46683939746644465ea668605461452f154669465304647 2.0 (bs/264676308ea466839377227cea8532cbae6768060696254068331H709673 3.0 (bs/97136456366468f0860666666627a7a742007ff6640256266467646836467666836467666636364676666666666	22072 22072 22072 22072 22072 22072 22072 26753 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 17555 13880 1138780	55 56 64 60 2477 3502 5048 5166 4783 4198 3803 4408 5762 5575 5426 7085 22241 20130 18803 18013 18013 18013 18075 23129 33596 33592 33298 3474 35329 5588 5688 5898 58	60,00000002 60,00000002 60,000000002 60,000000002 60,0000000002 60,0000000003 60,000000003 60,000000003 60,00000004 60,00000004 60,0000004 60,0000004 60,00000004 60,00000004 60,00000004 60,000000004 60,000000004 60,0000000004 60,0000000000	1692477 67153 67153 67533 67755 113680	2989.5 € 4999 4069 9217.8 18922.25 27640.5	0.000078583519597343 €0.00000050 €0.00000041 €0.00000194 €0.00000475	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the lashed elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbs/24222ar/S87833111 abcs/94f6fs11a Tafick 1511 cleft/3948ea8bb68372acl 157a22be 1.32 (br.169a57621 closcales/0818342570552cl tcf.0808421 abe8bb6372acl 157a26be 1.32 (br.169a57621 closcales/08183425750552cl tcf.0808421 abe8bb63762acl 157a26be5876144 1.32 (br.169a57621 closcales/08183425755552cl tcf.0808421 abe8bb63762acl 1577eb0006be1270 1.32 (br.169a5761 closcales/08184564561 abe8b645685618be503762be50550646961 1. (br.169a576261) abe8bb637862be50456186362acl 167be50466961 2. (br.169a576262331 abe8010764644958ea6be505164217466963652ce) 156eb04 2. (br.169a576456362636467476768362ce) abe8b647676568636164621468646563636447 2. (br.179a56526366816086861607676666857666668527666668266666666666666	22072 22072 22072 22072 22072 22072 22072 22072 26753 67153 67153 67153 67153 67153 67153 67533 67755 67787 67781 67731	55 56 60 00 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5426 7085 22241 20130 18943 18603 18013 18075 23129 335856 335826 33548 34474 35329 37580 84083 100691 289530 332962	60,00000002	1692477 67153 67153 67533 67555 113680 159693	2989.5 € 4999 4069 9217.8 18922.25 27640.5 34907.75	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094 €0.00000194 €0.00000475 €0.00000843	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bb.824223a/S878331113c049H60fa1a/Tarlot 5131cH619348ea8bb6372ca10157a22e 1.32 (br.861957c121cosa6p80f033e2070550241cH5004651a108bb637ca10157a22e 1.32 (br.861957c121cosa6p80f033e2070550241cH5004651a108bb637ca10157a26b 1.32 (br.861957c10677c211b65741ba65ca85936e480a87ae61774e0280f0ad774e18873ab5 1.32 (br.861957c10677c211b65741ba65ca85936e480a87ae61777e00006e12737 1 (br.661957c04626)4663335461546364563656465636463636466468696646646646646646646666666666	22072 22072 22072 22072 22072 22072 22072 26753 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 17555 13880 1138780	55 56 64 60 2477 3502 5048 5166 4783 4198 3803 4408 5762 5575 5426 7085 22241 20130 18803 18013 18013 18013 18075 23129 33596 33592 33298 3474 35329 5588 5688 5898 58	60,00000002 60,00000002 60,000000002 60,000000002 60,0000000000	1692477 67153 67153 67533 67555 113680 159693	2989.5 € 4999 4069 9217.8 18922.25 27640.5 34907.75	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094 €0.00000194 €0.00000475 €0.00000843	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,513.81
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbs/24222ar/S87833111 abcs/94f6fs11a Tafick 1511 cleft/3948ea8bb68372acl 157a22be 1.32 (br.169a57621 closcales/0818342570552cl tcf.0808421 abe8bb6372acl 157a26be 1.32 (br.169a57621 closcales/08183425750552cl tcf.0808421 abe8bb63762acl 157a26be5876144 1.32 (br.169a57621 closcales/08183425755552cl tcf.0808421 abe8bb63762acl 1577eb0006be1270 1.32 (br.169a5761 closcales/08184564561 abe8b645685618be503762be50550646961 1. (br.169a576261) abe8bb637862be50456186362acl 167be50466961 2. (br.169a576262331 abe8010764644958ea6be505164217466963652ce) 156eb04 2. (br.169a576456362636467476768362ce) abe8b647676568636164621468646563636447 2. (br.179a56526366816086861607676666857666668527666668266666666666666	22072 22072 22072 22072 22072 22072 22072 23072 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 1892477 18929 17533 67533 67533 67533 67533 67533 67533 67533 17585 173880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 114880 1158993	55 56 54 60 2477 3502 5048 5166 4783 4198 3603 4406 5762 5575 5426 7065 22241 20130 18603 18603 18013 18075 23129 33502 33296 33296 332962 331883 411865	60,00000002	1692477 67153 67153 67533 67555 113680 159693 67731	2989.5 € 4999 4069 9217.8 18922.25 27640.5 34907.75	0.000076583519597343 €0.0000050 €0.00000041 €0.0000094 €0.00000194 €0.00000475 €0.00000843	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,513.61
2023-02-05 2023-02-05 2023-02-05 2023-02-06	1.32 (bbt.242231785783111 bac094901611 arTorlo 1513 cleft(93)486a8bb637 can 1517a269 1.32 (br.86a5379c212 cce6a69033e2e78552421cf508651 at 968b637614671467 1.32 (br.86a5379c212 cce6a69033e2e78552421cf508651 at 968b65464e286867f14f1 1.32 (br.86a579c212 cce6a6903862e7876552421cf508651 at 968b65464e286867f14f1 1.32 (br.86a6976710b77c211 bb5741 faba5cce85936480a877e2601bad7875e418787a55 1.32 (br.86a69767010b77c211 bb5741 faba5cce85936480a8762e7801bad7875e505064696961 1 (br.86a697626a60636366461 at 968b6767656805047875e505064696961 1 (br.86a6976760866961) 2 (br.86a697670860e246680360646761466464656e268e36041652714669656540364747 2 (br.87a69622331 lease30173ad4077810832cc696ec2770662c2491690452c91569646 2 (br.86a69767086e24664805906696746696069629660b6833111c709623 3 (br.87a69622331 lease30173ad4077810832cc696ec2770662c2491690452c91569646 3 (br.87a696692331 lease30173ad4077810832cc696ec2770662c2491690452c91569646 3 (br.87a696692331 lease30173ad4077810832cc696626796662c39664669606626666666666666666666666666666	22072 22072 22072 22072 22072 22072 22072 22072 26753 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 67533 67533 67533 67533 67753 67755 67755 67755 67755 67755 67755 67755 67757 67757 113680 113680 113680 159693 159693 159693 159693 159693 159693	55 56 56 54 60 2477 3502 5048 5166 4783 4198 3803 4406 5762 5575 5426 7085 22241 20130 18943 18003 18013	60,00000002 60,00000002 60,000000002 60,000000002 60,0000000034 60,000000001 60,000000001 60,0000000000	1692477 67153 67153 67533 67555 113680 159693 67731	2989.5 € 4999 4069 9217.8 18922.25 27640.5 34907.75	0.000076583519597343 €0.00000050 €0.00000041 €0.00000194 €0.00000475 €0.00000843 €0.00001346 €0.00006615	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,513.61

Test date Op	type Transaction hash	GasUsed (unit) Ga	asPrice (wei) Final	cost €	Average gas	Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-06	2.4 0x956c9b17aa664028986979cccb5f2615af0b7da0158b89e2a33444b0b019f4fb	89772	2190456	€0.000297639				Transaction type Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-06	2.4 0x2e5f8b6ca8e485b55e2fbadc87f97b863b032a4dda5c6dc0831ca91db0ce954b	89772	3563157	€0.000484161				аррговол		
2023-02-06	2.4 0x3dcd3997244596a3c2cf65bdd1d041f06a525f4030c09607b8beaa463a55a039	89772	3576937	€0.000486033						
2023-02-06	1.31 0x0155d785579c1475207633910f06335955ffaf1ef630ec740ca142f976b5a0ee 1.31 0x922d47c9e0bb7a7d4871f177b616f6e6ee15ae84baa5ae65f015a35cb66b4e83	21848 21848	3176103 3412312	€0.000105032 €0.000112843	21848	4254147.75	€0.00014068	Transactions for requesting the leaving blockshain (one line per		
2023-02-06	1.31 0x4e442761a6ce599fc82f53dac666ab610dbfc8fe71c57aa58060b27970d05a11	21848	5099752	€0.000112845				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-06	1.31 0x8fb69fc96e7e65f4febeed962e14bfa6ecc8e0c85d0df556812efde50afc151f	21848	5328424	€0.000176208						
2023-02-06	1.32 0x602efc511600a76bffd5c4a7d24469a5b6dd54ffdc9b4d83a20e2a3c9eedcc62	22072	3386869	€0.000113150	22072	4181396.5	€0.00013969	4		
2023-02-06	1.32 0xdb7296c6e875f446c133f9ef8b6723076f30d5e3524e36c8559b15e89ddbd6dd 1.32 0x15fdd8447c48b77edea76cbdb366de2c4b4a16d54a90e51f151e9c3ff231c4e2	22072 22072	3244418 5429218	€0.000108391 €0.000181381				Transactions for key return (one line per authority)		
2023-02-06	1.32 UX15f0d8447C48b77edea76c0db366de2C4b4a16d54a90e51f151e9c3ff231c4e2 1.32 UX8141bba2343976168e52b21d8c00b910ce52366bb6cacd92a5e2ad0c8cf71f61	22072	5429218 4665081	€0.000181381						
2023-02-07	-1 0x2f72585a6550884d80a434c558c3f3b7d778162445e0e7f4156787ffc7fa0da6	1692477	97329664	€0.252730973	1692477	97333677.5	€ 0.2527413951504670000	Contract creation	0x9D5820d6fdB4bE0340428FA1B9Ea9E65E8976872	€1,534.23
2023-02-07	-1 0xec2d317ecdcaf58bdd5868f97d5e6eaadff5f9c74a7f53bbf5d9202b069eaf93	1692477	97337691	€0.252751817				Contract creation	0x3d4A4FF31Cfe16af9af53F0078CE80ccc13ad322	
2023-02-07	-2 0x88417bd72353fb1b6e370dab8f96bf0f3ccc1bf7e6c2e111dd497254e2ffcb6a	67153	101024976	€0.010408416	67153	101133588.3	€0.01041960	Transactions for storing public key readers (actors). One for each of the		
2023-02-07	-2 0x5550ef8b7d00c77f821491cf5651e0b5dc907ab776ee0a015eb458444b3358c9 -2 0xc2a39eab3c91ca796a421fc0f19462511ad544c46a42893f79195f2133f42f64	67153 67153	101646001	€0.010472399 €0.010378003				users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-07	-3 0xdd6eafd1d5f85d877ff725a61891476c2bda7757c5d806a779a63876e1492fda	67153	99313865	€0.010378003	67153	100065698.3	€0.01030958	3		
2023-02-07	-3 0x76e191292fe5c50da331372331b2d39931841bf40a3c81100e4168b230ad912c	67153	100259418	€0.010329542				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-07	-3 0xc99adf2706b1a38c09aa78e718ccf7f4c85a32d781313684fb34459433f96996	67153	100623812	€0.010367085				(**************************************		
2023-02-07	1.2 0x8f78eeaa662979f74c0cb5fb62b1cb5ed15a69be826ecf958300ccbcad219700	67533 67533	101536155	€0.010520278 €0.010587309	67533	102988891.6	€0.01067079	В		
2023-02-07	1.2 0x7e3r1cabr6/b5dc21bd230c14/35f2299a55b0d312ae01e/528bc0b0add32e38 1.2 0x5f5a86401b78358c40a2d93cb9b9b54b390e7c7d08a6f06af56f7bc5c35f3743	67533	102183102	€0.010587309				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-07	1.2 0x2d1cee34dec2d823cc73c47c4fc1772be9fca31fce0eb59416ac24f23d61ea54	67533	104023398	€0.010777984				MARTSIA approach		
2023-02-07	1.2 0x9da73564755e6b82f58d6a703dc4e994ad4831c0711153a900c63ad8f4d517e2	67533	103910681	€0.010766306						
2023-02-07	0.1 0x7ac9ec17ba85ec16d9207fe85b503f35cf818a0a4d7860c3abf2c8c26efffbf0	67755	102719297	€0.010677851	67755	102307615	€0.01063505	6		
2023-02-07	0.1 0x665f6fe5d03448b00fd8def5d300a5bea9ad90a5057d795cc7c3a8812a6eaf7a 0.1 0xabb7e535aa0b4d452cff9c4b449f381d15db9df5e4153fa3e11692dfc21174f7	67755 67755	101919254 102456188	€0.010594685 €0.010650500				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-07	0.1 0x5e751367d51914c03ha5343411eh19ch17df24hf419075d4ce6d7f9a1hach9a1	67755	102135721	€0.010650500				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
2023-02-07	0.2 0x5e3850e274f2b33babbb2984de8b63c515cae067efa71920880ad358f02af633	113680	101742337	€0.017745010	113680	101511321.3	€0.01770471	В		
2023-02-07	0.2 0x8799da69a9cf691a85d121dd8558b2b2b5f2ad300f9a04cfddffdf4e4a3c9202	113680	102061530	€0.017800681				Transactions for the storage of the hashed elements. 0.2 action of the		
2023-02-07	0.2 0xddb0d704156ac75a1bec3cba90f2def181849b41feb54d5f11d4fc447257a638 0.2 0xbe9b6aad25844c31767d73376d0852871f7c69a38612e96fd3e56063b376245f	113680 113680	101279950 100961468	€0.017664364 €0.017608817				authorities (each of them: one transaction per authority)		
2023-02-07	0.2 0xbesb6aad25844c31767d73376d0852871f7c69a38612e96fd3e560b3b376245f 0.3 0xe6e45e9e3e998327591bdc96b6e9f7f62dd4eaf75d136136ad951a0a74caa421	159693	101257454	€0.017608817	159693	102875726	€0.02520514			
2023-02-07	0.3 0xf50f4098ccd8569194b866d63ead800d8b9b0fb89c060e8995cd3f0be56f3f06	159693	103106317	€0.025261645	100000	102070720	CO.02020014	Transactions for the storage of the elements. 0.3 action of the authorities		
2023-02-07	0.3 0xb81d55adb0de6bd8fb816a6c423bde22ac91b5fabf2fb1f1c0ccd56608d76baf	159693	103814455	€0.025435143				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-07	0.3 0x1b60ba914843ba0705a7b3b0bf526ac9c4d970be73cb1a3d2d673950ffae697d	159693	103324678	€0.025315145						
2023-02-07	0.4 0x271a48e8ef851213ecbce6093366b71e893f92fdeb48954e426679c137681758 0.4 0x8300b821099300946f9be32debe70fe6f0b808f7ff2e8041aa65b16693df936d	67731 67731	104992011	€0.010910238 €0.011190298	67731	107197544.8	€0.01113942	Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-07	0.4 0x82b9ca7fb3f396d3fcc196e749134da91d54ed2239613b58ff3aae5b4a00a3e8	67731	108545612	€0.011279510				authorities (each of them: one transaction per authority)		
2023-02-07	0.4 0x7d6792dee8113f4d73c5ff2b03e93b6675d93276a7327310d2be80f014c3d809	67731	107565457	€0.011177657						
2023-02-07	0.5 0x55491963f1fa0f1c70008f3db84ceb573c8094328bb433a85015cd71889c6e72	67688	108498409	€0.011267447	67688	106789104.3	€0.01108993	7		
2023-02-07	0.5 0xf06f6c08b15bb31c10827a3b699fe103e1432735f8a3c68810d168e035a5478e 0.5 0xf9c644f2e01bbae0e4d04a327f4923e3c317626fb72a0b3542b30be5ec393684	67688 67688	107365742	€0.011149821 €0.011026720				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-07	0.5 0x09ffe33a647dc48388ec89d9abe682a2bb7d6fd8a51838a7da80850f3904ab48	67688	1051111904	€0.011026720				,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,		
2023-02-07	2.4 0x94e8ceb66af47d0db02f2ce801321febc5b0de48ccc8a84289e07298cc2947c1	89772	105899165	€0.014585587	89772	107503880	€0.01480660	6		
2023-02-07	2.4 0x155842a51b0368a9f43e2b62183eb9b48b7126bf5491857cdbf3dcf87d37b023	89772	108741353	€0.014977044				Transactions for the storage of the IPFS link, Action 2.4 of the MARTSIA		
2023-02-07	2.4 0x752881b04ba7b7b346b803ad72b8a8d12ceaaf2d74afa98df5f32d4cc98e59b9 2.4 0x3f8930553b6410b9df89015829b7416c05748c789695acccb37ca4335fe33612	89772 89772	109307081	€0.015054962 €0.014742062				approach		
2023-02-07	2.4 0x5f893055366410090f89015829074160057486789695accc0376a4335f833612 2.4 0x5b9d2fdd38b6ce1ce23aa1ef3ea2e49e1b54a388a6c1a9b1e4da09658d2ffb55	89772	106536546	€0.014742062						
2023-02-07	1.31 0xccd7165ba5f245f9eece199a48dc344d972514f6348013bade0f8ae78fb33a1f	21848	106181813	€0.003559199	21848	104944307.5	€0.00351771	В		
2023-02-07	1.31 0x5a80ca9b8b68e60c497cc5b2b83b5b4916782264581a9da357598c8bd009041a	21848	105135010	€0.003524111				Transactions for requesting the key via blockchain (one line per		
2023-02-07	1.31 0x752205d834ec1516e13c26722932be5665ab2c1ea9525f89a41d7e5785a40e75	21848	103998068	€0.003486000				authority)		
2023-02-07	1.31 0x89914d026778ba8d5678331a83b06a5bebc00ceb74315ae1e583204949fb7b16 1.32 0x64a496b50b51a86fec263faadf0583e830b9d3e1d4424eaa5e5ec9ae493b2820	21848 22072	104462339 103650109	€0.003501563 €0.003509958	22072	104071586	€0.00352423	1		
2023-02-07	1.32 0x95590b7d9c6174a988cdcd529947ffa6a29c5e4ae58258f04e1df17bf3c343da	22072	104555649	€0.003540623	22072	10407 1300	60.00032423	<u>'</u>		
2023-02-07	1.32 0x49587519a99f8cbcb14d786a171597195bfe85fa7c38aaf5c5f388173c51d83e	22072	104719482	€0.003546171				Transactions for key return (one line per authority)		
2023-02-07	1.32 0xbb1f38c16bfe102b05249645f10d773ca2572c9874dd07bc74e1b040d191648b	22072	103361104	€0.003500171						
2023-02-08	-1 0xa1134c45aff381115d74bd6a3db9c15957da785c750c8aa28cf60c83111c2e7f -1 0x068d34c8cede0c562707d33ba7f12bd0a0e2f56a7552245f636335afa94f5f3f	1692477 1692477	84712 136262	€0.000223324 €0.000359223	1692477	110487	€ 0.0002912735495995740	Contract creation  Contract creation	0x91eDfb150695229a076304A29e66A261C1e9E69E 0xCE535C6A1c9122D8ED6200B571b5d23c8A77776C	€1,557.64
2023-02-08	-1 0x068d34c8cede0c562/07d33ba7f12b00a0e2f56a7552245f636335afa94f5f3f -2 0x865866c227f821cdce84342ea8070ff31080abe4091c5562f5b98141bad4f3fe	67153	136262	€0.000359223	67153	255492	€0.00002672	5	UXCE535C6A1C9122D8ED6200B5/105023C8A////6C	
2023-02-08	-2 0x83c8eea2f21e964a52e1c1fdbc2fcf11818195036ddb9e56e92ffa0992a54e7d	67153	335321	€0.000035075	07100	200402	C0.00002072	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-08	-2 0x477fd7e33344ee5db4ac911b15dc9c2746c1e03e784ec43556d5a9537520aa9b	67153	308598	€0.000032279				· ·		
2023-02-08	-3 0x505080738ca8ebfdd961f094d3c2dbf4469bb9d8d2726ad047f49f38a6293500	67153	117382	€0.000012278	67153	110704	€0.00001158	Transactions for storing public key readers (actors). One for each of the		
2023-02-08	-3 0x9079d9a16111a083494f53057e22fe64570c41aefc711f2dbf740a14ea3f59cf -3 0x4f69425c857b95498ce96f65c28111ee6f7a031f2e9e6849eaecaae27c63ea23	67153 67153	112747	€0.000011793 €0.000010667				users (manufacturer, supplier1, supplier2) main		
2023-02-08	1.2 0x42c15d0c23c2a3177a75935d2c49a541c3a8964cbd82e0d9414c99b785cce502	67533	339861	€0.000010887	67533	367160.8	€0.00003862	2		
2023-02-08	1.2 0x1a0be5d79e67b3ab34c855cca6703e0b1f1d7004279f1baafd730690d4312d0c	67533	370151	€0.000038937						
2023-02-08	1.2 0x111c2b99a59e0bbe408520cdee61e8bcf986ef468191f26e1df1052f0520f48e	67533	377070	€0.000039665				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-08	1.2 0x9968d0ac54798892aba2d36cf211c0c6366d1b2e7711545a0cc253607eea544b	67533	378831	€0.000039850						
2023-02-08	1.2 0x85e094f74167603aa29d20a476d2b1818dbc55bd39de3b20b2d7fe4278d0bc62 0.1 0x51c9ff6498d49a6317984e506202601a9fbd6bb01cd01b32a2796c2b1e18b888	67533 67755	369891 438193	€0.000038910 €0.000046246	67755	394122.25	€0.00004159	5		
2023-02-08	0.1 0x23791656d2fb08026374d41d824f248df1dc931e4b44d7da12b7a976feb3d8fd	67755	389446	€0.000041101	5.755	004122.20	20.00004138	Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-08	0.1 0xccae7d9cc654e5c92138a57b52d38dd6c15295d31f7c61b1e206cacbc30cb48c	67755	384786	€0.000040610				authorities (each of them: one transaction per authority)		
2023-02-08	0.1 0xb209379421fd8023a649cae43c75f896ed567813a017fbb12808d2a59e1bce37	67755	364064	€0.000038423						
2023-02-08	0.2 0xe32dffa802889455adef6ccaf0fd8fb7281cbdf0d24fe827271f704d320c3a27 0.2 0x780b5a38ade21548f73333d8aca1456436edb359dfa72d50bf349cbad5a78853	113680 113680	320121 349782	€0.000056685 €0.000061937	113680	331299.5	€0.00005866	Transactions for the storage of the back o		
2023-02-08	0.2 0x/80bba38ade21548f/3333d8aca1456436edb359dfa/2d50bf349cbad5a/8853 0.2 0xe92a9d4cd1c12f662cb977426829aace936428061b07b50063b3765b07d4274b	113680	349782 324252	€0.000061937				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-08	0.2 0xd36c3c112130a5393b7c9b526e5956eb27dd0e45d519fef19e2bb8aad06a5a7a	113680	331043	€0.000057410						
2023-02-08	0.3 0xec598f1e45ed620b676c599428fc250e02234a8d28f12794a1f12e81e2ffe62d	159693	293984	€0.000073127	159693	428510.5	€0.00010659	D		
2023-02-08	0.3 0xe03465d17f8fd4fbadcd33667a5c1dda8f161359d39ec8747db95f9025b1ce37	159693	339352	€0.000084412				Transactions for the storage of the elements. 0.3 action of the authorities		
2023-02-08	0.3 0x73049bc278616bbb14c4e80ccca6a4baeee18cc00dc7eba7ac9758f9027753a5	159693	495279	€0.000123198	l			(each of them: one transaction per authority)	l	

Test date Op t	type Transaction hash	GasUsed (unit) Ga	sPrice (wei) Fina	l cost €	Average gas	Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-08	0.3 0xf2e3bf251901c787c35e3d24afe35911c4933e48cbd1430e084d1cac926a302c	159693	585427	€0.000145622						
2023-02-08	0.4 0xd7e3d7fcf01d5d008a88312287cdf4af53701e57e8a8cd78b1e12a49252b3423	67731	600563	€0.000063360	67731	626589.5	€0.000066106	6		
2023-02-08	0.4 0x9fc7a78a2885afba10776bea112840883dd1bfbdd8a27621cd76ae77230eff0b	67731	584853	€0.000061702				Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-08	0.4 0xb69d6cbfc7cee423c1e743e7b858d64b1026e72b46b139c28e3c49bd8786143f	67731	610950	€0.000064456				authorities (each of them: one transaction per authority)		
2023-02-08	0.4 0xc4253d36db63133fbc6a3fbc840011be39af18040a1d01b0fac7a75a682e3757	67731	709992	€0.000074905			€0.00064046			
2023-02-08	0.5 0xab7410f6a99effcd92f5f864017230211dd254444a0478dc974291d9e90c8203 0.5 0x5b8de5f2f1d965331a33f338f24cee777b64dd4c0f2a25c385ef245935dd24a6	67688 67688	3107701 7299447	€0.000327656 €0.000769607	67688	6074624.25	€0.000640469	<sup>9</sup>		
2023-02-08	0.5 0x21f505ab4c677985b73b251db0f68755ee06a4cb717f2521b7cbd9f4e09f5b28	67688	7085076	€0.000769607				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-08	0.5 0xfbe8c28f9ecc3ca7e35ae25ee1af6cbfcd1410050692ba935cae73e2ee202415	67688	6806273	€0.000717609						
2023-02-08	2.4 0x9c7f8645254b90207a6a9aa7f2d03540e21e896aac5452f4c2cbe71626c013b6	89772	6796510	€0.000950373	89772	5951296	€0.000832184	4		
2023-02-08	2.4 0x4b3ced573086ea56da3296084da0e02341b67915fc0ae018c06ae16cd4eb7044	89772	6421451	€0.000897927						
2023-02-08	2.4 0x5073d390c969d4209cf7c9d6cdb3012b47b1a55c337d5b5e24ee242010032b73	89772	6120208	€0.000855804				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-08	2.4 0xc2602847b3af82c6a6e5913ab1586627d32bf19f8013424929b951e87fc2e9d9	89772	5648576	€0.000789854						
2023-02-08	2.4 0x192f87f9a419a13ac8e83f31419d287ff1a33606c1ba7f6232a3cdef76a015e6	89772	4769735	€0.000666964						
	1.31 0x9dad5ce7c9e1bac01788eea97195152a5f4ebc9c92b7ca24f2a0bbc1d9334cfa	21832	5261456	€0.000178923	21832	5118587.5	€0.00017406			
	1.31 0xed4ac227993cc8aac54d42ce23f182d6a855ac68dc0c6795bf5e7eefbb8e97c2 1.31 0x80b86eb7d0d5d09f5b87fee3a117396b38109c3d32b36c65766d17c3f879c839	21832 21832	5141340 4876282	€0.000174838 €0.000165825				Transactions for requesting the key via blockchain (one line per authority)		
	1.31 0x61daad6f47f5a3e764421d8643550b4d27e0669fc867808fc9eb7774101a5751	21832	5195272	€0.000103623				***************************************		
	1.32 0x95c3af937fef2007a7c8ac68d5a2dd2ba2b7de6d85dd35082648c82a3c745640	22056	5148523	€0.000176879	22056	5442390.75	€0.000186975	5		
	1.32 0x9261ad9527db2fc9bce7f2e6b15a8e8ae8f3d8aba3f97559446b3fa0614a2766	22056	5100991	€0.000175246						
	1.32 0x7b059901af38d2942a5a36390e33a6fb52f9db2e7560dca96e05b12eeddcb6ee	22056	5413451	€0.000185981				Transactions for key return (one line per authority)		
	1.32 0x46835665103f678990bb72001688ac02d76955df3c85a2cb76b77042d5d2ea9a	22056	6106598	€0.000209794						
2023-02-09	-1 0xf2a401d19eb379f26151a5a5c1c31f25f07ee51693c887509e64349cd432037e	1692477	9429644	€0.024259649	1692477	11143660	€ 0.02866929896470610000	Contract creation	0xA6A3088c6c628Ed7f8FF436264FD3522aFa31A85	€1,520.08
2023-02-09	-1 0x0937c1032eab1f1a074dbf0560f06e43340ad2163e2650a1379055cb39b80841	1692477	12857676	€0.033078949				Contract creation	0x79014FB8bb338B140F11f750Bc2c7136B4AEE8b3	
2023-02-09	-2 0xd48b06212aaf4753c8504025aa43ed189bb7e667a5de93278d8c325766731e87	67153	7014968	€0.000716073	67153	6679257.667	€0.000681805	Transactions for storing public key readers (actors). One for each of the		
2023-02-09	-2 0x47fcc69adcb9bf680ff687464c3a36fb1b1a9243b9821443d414b2441aa7ec98	67153	6729434	€0.000686927				users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-09	-2 0x270d95c9aabbca4b429372926b7b9a255e3a3ee6db8030db0088984c759e1ba0 -3 0xdab7831f1acd8b17d944e420554762eff3df2f44e725fd0aa9b884c4ae1ec3aa	67153 67153	6293371 12620077	€0.000642414 €0.001288231	67452	12655380.67	€0.00129183			
2023-02-09	-3 0x6e93317b88a551bcf0bd3ad991600fb4cd38994575e082595d212d700705aa10	67153	12804111	€0.001288231	67 155	12000000.07	€0.00129103	Transactions for storing public key readers (actors). One for each of the		
2023-02-09	-3 0x3966d2c304ed0bfb0b25fa8d76d5290843d2e7d6b098c5bbda752988972791f7	67153	12541954	€0.001280257				users (manufacturer, supplier1, supplier2) main		
2023-02-09	1.2 0x9b7a091bc6e08071a841215f1ba9ff8fea4fb4c654f4b7c9f186b9f1e947e52a	67533	7400859	€0.000759739	67533	6298805.8	€0.000646607	7		
2023-02-09	1.2 0x1384723ceeee2807dcfea0044a88bb0bae83efc0652d65a89ed5bb0bb2c66b70	67533	5843007	€0.000599817						
2023-02-09	1.2 0x54df645f7c109aeef185d378277e71ff6674cecd6bdeed1fd0017a93c0b47450	67533	5937453	€0.000609513				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-09	1.2 0xce8976f51bdd75c0d53a45b9807c785a0befebc4ff93a3bac056db013b2f80e2	67533	6101947	€0.000626399						
2023-02-09	1.2 0x21192f75fb76db1571f206283ac114c8f0da5868c43e3c046d3286c02bb9ddd0	67533	6210763	€0.000637569						
2023-02-09	0.1 0x2dae85a6b5d461af345ca5a0f3112b16fd93ac09612cfcb11838403a05da046e	67755	4849807	€0.000499496	67755	4725260.75	€0.000486668	9		
2023-02-09	0.1 0x4a016bbfdf14c7abae26a089da47b8e82b38fac18b7538156fe21fcc5a20d382	67755	5025669	€0.000517609				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them; one transaction per authority)		
2023-02-09	0.1 0x7bb996e7f16291b163bb6499656140c20fac102d42230557123ea1d6c647bc0b	67755 67755	4611835 4413732	€0.000474987 €0.000454584				dutionics (cash of them. one transaction per dutionity)		
2023-02-09	0.2 0x0922c23b00e69dd4d2f8abbf396e587f4cf7e35ea5ca15071a5d2f3efc2c9086	113680	4088009	€0.000494964	113680	3765896	€0.00065075	7		
2023-02-09	0.2 0xcc84e74861eb59530348444b30247401051709fcd13f79f734438f75f891463b	113680	3853485	€0.000665893	110000	0,00000	C0.000000707	Transactions for the storage of the hashed elements. 0.2 action of the		
2023-02-09	0.2 0x995191ac5d18f130331cd74f746e0884a49bb98b99dcca48f53a5440a413d3d2	113680	3656522	€0.000631857				authorities (each of them: one transaction per authority)		
2023-02-09	0.2 0xe60a179e5f8d4e9996e3966fd5b395ff58a49cc3c5fea30f49a2607965fae404	113680	3465568	€0.000598859						
2023-02-09	0.3 0x2bb973b05bdb713d4071b1b3db0bcbe02ea0e627cf557380c593f0699c3e5325									
	0.5 0X2003/30030007/15/07/16/103000000026027/Ci33/3000333i00330363632323	159693	3329038	€0.000808111	159693	3247808.75	€0.000788393	3		
2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418fb385fa7b0bf7	159693	3297104	€0.000800359	159693	3247808.75	€0.00078839	Transactions for the storage of the elements. 0.3 action of the authorities		
2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418fb385fa7b0bf7 0.3 0x53149a66c256f96dc963872d373d254e5ffaddcfbf340db4bf891e978939096f	159693 159693	3297104 3213799	€0.000800359 €0.000780137	159693	3247808.75	€0.000788390	Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418fb385fa7b0bf7 0.3 0x53149a66c256f96dc963872d373d254e5ffaddcfbf340db4bf891e978939096f 0.3 0x169eb2a0cf7ee48019b3a8c0edf4bbb4d861590fa51759234b6be1203493e448	159693 159693 159693	3297104 3213799 3151294	€0.000800359 €0.000780137 €0.000764964				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd66bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418h385fa7b0bf7 0.3 0x53149a66c256f96bc605872d373d254e5ffaddctbf340bc448f91e978939096f 0.3 0x169e62a67fee460195ha86de4fbb444861596a7f5786245bbe1794349a448 0.4 0x1203eead21d58cfae238d13c8409d10aea7e02fb8dd30ed4ee6a7be101d47378	159693 159693 159693 67731	3297104 3213799 3151294 3000701	€0.000800359 €0.000780137 €0.000764964 €0.000308942		3247808.75 2939604.5		(each of them: one transaction per authority)		
2023-02-09 2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed00cd8bc1aef638eb94fa025111b814418fb385fa7b0bf7 0.3 0x53149a66c256f96dc668872d373d25465ffaddcfb1340db44891e9789380906f 0.3 0x169eb220d7fce48019b3a80cdef4bb44d861590fa51759254b6be1203493e448 0.4 0x1203eead21d58cdea2288410s409d910aea7e02fb86d30e44ee8a7bre101d47378 0.4 0xx30ee41c3fcce612c9667e6e4579d6204df4d12adc29cdb56c7b8441784a81790	159693 159693 159693 67731	3297104 3213799 3151294 3000701 2975801	€0.000800359 €0.000780137 €0.000764964 €0.000308942 €0.000306378				(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd66bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418h385fa7b0bf7 0.3 0x53149a66c256f96bc605872d373d254e5ffaddctbf340bc448f91e978939096f 0.3 0x169e62a67fee460195ha86de4fbb444861596a7f5786245bbe1794349a448 0.4 0x1203eead21d58cfae238d13c8409d10aea7e02fb8dd30ed4ee6a7be101d47378	159693 159693 159693 67731	3297104 3213799 3151294 3000701	€0.000800359 €0.000780137 €0.000764964 €0.000308942				(each of them: one transaction per authority)		
2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed05cd8bc1aef638eb04fa025111b814418fb385fa7b0bf7 0.3 0x53149a66c256f96bc056872cd57342254e6ffadcdrb140bc48f815967893906ef 0.3 0x169e62.2007fee480195a826edf8bbc48f81596157569224bbet 120439a9444 0.4 0x1203eead21d556fa2828415c9640ef10aea7e02fb8c430e844e6ea7bre101d43736 0.4 0xx32e41c3f5cc6512c9667e6e45796620df4d12aed226d566786441784811790 0.4 0xx32e411256c55301ddf8c260d7a7725bbb3d747a6ea115833725	159693 159693 159693 67731 67731	3297104 3213799 3151294 3000701 2975801 2928551	€0.000800359 €0.000780137 €0.000764964 €0.000308942 €0.000306378 €0.000301513 €0.000293773	67731	2939604.5	€0.000302652	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd58bca09d7ee5ed06cd8bc1ae8638eb04fa025111b814418fb385fa7b0bf7 0.3 0x51349a96c259f58dca69372d573d254e6fladcdtb140cb49f891e978939096f 0.3 0x169e24c976e4e91019ba36cedfbb4b4648f9506457562245bbe1540349a448 0.4 0x1203eead21d585eflae328413ce409d19aea7e02fb8dd30e3de46e6a7be101d43738 0.4 0xcsee4c156coe126c9867ee647960264df412e42c0cb56c78b41748481780 0.4 0xc1200794cc787fs4214dc5301db1fla5a2809d7af725bb3d747adeac115633725 0.4 0x58e4567867862646475657867867867867867868686378686333565643161866	159693 159693 159693 67731 67731 67731 67731	3297104 3213799 3151294 3000701 2975801 2928551 2853365	€0.000800359 €0.000780137 €0.000764964 €0.000308942 €0.000306378 €0.000301513	67731		€0.000302652	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  5		
2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1aef638eb94fa025111b814418h385fa7b0bf7 0.3 0x53149a66c256f98dco68372d373d254e6ffadddbf340bd448f91e978939096f 0.3 0x53149a66c256f98dco68372d373d254e6ffadddbf340bd448f1506f5796234b6be1203493e448 0.4 0x1203eead21d55edea238d13c4649d10aeaf67900fa51796234b6be1203493e448 0.4 0x1203eead21d55edea238d13c4649d10aeaf6278bd6d39ed4ee6a7fe7b10fd47378 0.4 0xc2e941d3fcce6f2c96676e487966204df412adc29cdb56c784441784881790 0.4 0xc12030794cc757644214dc5301dbf45a52600747725bb53d747adeac115633725 0.4 0xd88d6ba786c98c3564f7a7f258424e6537164e18d3398fea3338b6343f161e0a	159693 159693 159693 67731 67731 67731 67731 67688	3297104 3213799 3151294 3000701 2975801 2928551 2853365 2832486	€0.000800359 €0.000764964 €0.000308942 €0.000301578 €0.000301513 €0.000293773	67731	2939604.5	€0.000302652	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the		
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2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed05cd8bc1aef638eb04fa025111b814418fb385fa7b0bf7 0.3 0x51349a96cc25696bcc96372d573d2254e6fbadcdtcf340bc48t891e978939068f 0.3 0x169e26c207e6e480105a5a6cd64bbc48d8150b6157562245bbe1520439a6448 0.4 0x1203eead21d556clea238d13cc460p610aea76d2bb6485bc44e66a7be1014d3738 0.4 0xcs9e415closc0a12c6867e6e475760520d4fb12c32cb65c67844178481780 0.4 0xc1920794cc757fb4214dc5301dbffa5a260d7af725bb53d747adeac115933725 0.4 0xc89e45c960566654050e767760520d4fb12c926cb656c78447deac115933725 0.5 0xc60d6a5e0056660536007567760524046653716de18d3398bea3335b50d3161fe1da 0.5 0xc60d6a5e005666053600756246441cbf365666465766c498267637963963 0.5 0xc60d6a5e0056660536007562644441cbf365666465766c498267607963 0.5 0xc60d6a5e0356005669536907646264441cbf36566665656665666667666760056666565666766666666	159093 159093 159093 159093 67731 67731 67731 67731 67688 67688 67688 89772 89772 89772 21848 21848 21848 22072	3297104 3213794 3213794 33007071 33151294 33000701 2828551 2835386 2835486 2836434 2841758 2823872 2758667 2747286 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509 2747509	© .00800358 © .0007801376 © .0007761376 © .0007764376 © .0003088427 © .0003085427 © .000281737 © .000221438 © .000221438 © .000221438 © .000221522 © .00038132 © .00037459 © .00037459 © .00037459 © .00037459 © .00037459 © .00037459	67731 67688 89772 21848	2939604.5 2833637.5 2759303.6	€0.000302853 €0.000291554 €0.000378534 €0.00008918:	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)		
2023-02-09 2023-02-09	0.3 0bc16458bca0067ree6e0056c8bc1ae8638e0448c25111864418bc385627bbD77  0.3 0bc3149e86c25696de685872d3732254e68fadcdbc1940bc4461891e3763930bc77  0.3 0bc3149e86c25696de685872d3732254e68fadcdbc1940bc4461891e3763930bc77  0.3 0bc3149e86c256965de6865872d3732254e68fadcdbc1940bc44918691e376393096448  0.4 0bc1205eead21655c6ea238415c640de10aea7e02bbc30574646e66a7be101445733  0.4 0bc1200794c27575494214dc5301dbffas5a00d7af725bbb304774a6eat159633726  0.5 0bc1200794c27575494214dc5301dbffas5a00d7af725bbb304774a6eat159633726  0.5 0bc0066da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e4341cbdfd6aea4567e5c4493a82760379833  0.5 0bc006da2ea005de66d35607bb224e434465607db266d5646856564841  0.5 0bc006da2ea005de66d35607bb224e467db27db604278062d5681ebd6d64656cca41  0.5 0bc006da2ea005de66d35605d4146676ccd41466626ca41  0.5 0bc006d642ea005de664666666441  0.5 0bc006d642ea005de664666666441  0.5 0bc006d642ea005de664666666441  0.5 0bc006d642ea005de66466666441  0.5 0bc006d642ea005de664666666441  0.5 0bc006d642ea005de664666666441  0.5 0bc006d642ea005de66466666441  0.5 0bc006d642ea005d6666664666666441  0.5 0bc006d642ea005d6666664666666441  0.5 0bc006d642ea005d6666666666466666441  0.5 0bc006d642ea005d66666666666666666666666666666666666	159993 159993 159993 159993 67731 67731 67731 67688 67688 67688 67688 9772 89772 89772 21848 21848 21848 21848 22072	3297104 321379 321379 33151294 33000701 22975801 2298551 2298551 2832486 283443 2841758 2823972 2745050 2747258 2747258 2747258 2747590 2747260 2747260 2747260 2747260 2747260 2747260 2747260 2747260 2747260 2747260	0.00800359 0.00781037 0.00074964 0.000308424 0.000308427 0.000281737 0.000281737 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281636 0.000374639 0.000374639 0.000374639 0.00088729 0.00088729 0.000088729 0.000088729 0.000088729 0.000088729 0.000088729 0.000088729	67731 67688 89772 21848	2939604.5 2833637.5 2759303.6 2685357	€0.000302853 €0.000291554 €0.000378534 €0.00008918:	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)		
2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1ae8638eb44a025111b814418h385fa7b0bf7 0.3 0x51349a96c25696bdco69372d573d2254e6fladdch1240bc4489f3930066f 0.3 0x169e22dc76e4e8019b3a6c46fbbc4486150bd7517502450be12704396448 0.4 0x1203eead21d556fea238d13c409d10aea7e02bb6d303e46e6a7be101d43738 0.4 0xcsee4126co8126c687e649759602044fl412ac2bc36c6678b4178481780 0.4 0xc1290794cc757fd4214dc5301dbffa5a280047af725bb3d747adeac115633725 0.4 0xb6046ba786c986c5604f7a67262424e637164e18d33986ba33356bd3116d363165 0.5 0xc606da6ac605666659609767262424e637164e18d33986ba33356bd3116t6d3 0.5 0xc606da6ac605666659609762e46444fcbdfa6ac646766c4693676076863 0.5 0xc606da6ac638666369007642646444fcbdfa6ac646766c4693656669760364 0.5 0xc40464033878162cc0248900430c26e86a6962e2428bb6047ec27546707683 0.5 0xd606363871862cc0248900430c26e86a6962e2428bb6047ec275467607683 0.5 0xd6063863871862cc0248900430c26e86a6962562852272741fd059059059055 0.5 0xd60638650719144169576679883d165126805625825272741fd0590599059505 0.4 0xd6063657191962a662558664670036281460056778662566169626656cae176 0.4 0xd6063645746736390384869760002686186676686576656566666666666 0.3 0x36464336507719144169536538565555546696766865666666666666666666666666666666	159093 159093 159093 159093 67731 67731 67731 67731 67688 67688 67688 89772 89772 89772 21848 21848 21848 21848 22072	3297104 3213792 3213792 3000701 2075801 20928551 2633368 263344 2634174 267470675 2747285 2747285 2747586 2747596 2747596 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598 2747598	0.00800358 0.00780137 0.00074984 0.000308842 0.000308842 0.000301513 0.000231438 0.000231438 0.000231438 0.000231438 0.000231454 0.0002322 0.00037459 0.00037459 0.000037459 0.000037459 0.00008927 0.00008927 0.0008937 0.0008822 0.0008823	67731 67688 89772 21848	2939604.5 2833637.5 2759303.6 2685357	€0.000302853 €0.000291554 €0.000378534 €0.00008918:	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)		
2023-02-09 2023-02-09	0.3 0x5146458bca0067re6ebc006cd8bc1ea8638eb04460251118614418bc3856a7bbD77 0.3 0x53146986c256986cd663872d3734254e58indacdbc3400bc44681e78763900b77 0.3 0x53146986c256986cd683872d3734254e58indacdbc3400bc44681e78763900b74 0.4 0x52462d267fe46019bc3a6bc6df4bbb46881500ba57765234bbb61e2034939448 0.4 0x524627656e26526876e36679860264d1612a620cb66678b441748481780 0.4 0x5240794c275744214dc5301dbffss2600478f725bbb36747a6eact15633725 0.4 0x5824673689c865554879782624466537458bb3674747a6eact15633725 0.5 0x562066d2a2e3005e5663586078b224465374725bbb3674736e36415633725 0.5 0x562066d2a2e3005e5663586078b2246465374b258bb3674672565363805ceb077e29 0.5 0x4744673387845826525489034026e8680b625242bb6047e472569708a5 0.5 0x64264633881826202698094026e868065262242bb6047e47256986896886 0.5 0x64264633881826202698094026e868065262242bb6047e47256986896886 0.5 0x642646338074526141465776988634618696065628388726486896888662 0.5 0x64264633807486476564667666647600034066766666476666866666666666666666666666	159993 159993 159993 159993 67731 67731 6768 67688 67688 67688 67688 89772 89772 89772 21848 21848 21848 21848 22072 22072	3297104 321379 321379 33151294 33000701 2292551 22975801 2292551 22932486 2833486 2833487 22941728 2833972 2758561 2770875 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298	0.00800359 0.00781037 0.00078494 0.00038842 0.00038847 0.00038843 0.000231438 0.000231438 0.000231438 0.000231844 0.0002322 0.00038738 0.000374939 0.000374939 0.0003872 0.00088728 0.00008872	67731 67688 89772 21848	2939604.5 2833637.5 2759303.6 2685367 2677743.25	€0.00030265: €0.000291556 €0.000376534 €0.00008918:	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Transactions for key return (one line per authority)	Da & 501 Sea-607/03 1 (000/07/07/07/07/07/07/07/07/07/07/07/07/	
2023-12-09 2023-12-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1ae8038eb04fa025111b814418fb385fa7b0bf7 0.3 0x5134ge86c25905dcb68572d37372dc46fbadcdbf340bc48bt91e978390067 0.3 0x5134ge86c25905dcb68572d37372dc46fbadcdbf340bc48bt91e978390067 0.4 0x5245767ee48019b5a8bc6edf4bbc48bt91605f5769234bbb617474848780 0.4 0x52457676e80576962644f4154576962044f412dc2bc68c678b41748481780 0.4 0x5245767676786474465301dbffsa5260d7af725bb63d7a74aeat15633726 0.5 0x5605dca2ea005a665d59007e28c4643416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007e82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760378e33 0.5 0x605dca2ea005a665d59007b82e4e34416bdfsa6ac45676e56493aa27760368e8056605 0.5 0x4744463391862c022486934026e8640605264659504744463540560467865caa17 0.4 0x664333560771141805362389553554546291862676062656816666656601062e2 0.4 0x3460234506460468656566006666666666666666666666	159993 159993 159993 159993 67731 67731 67731 67788 67688 67688 67688 98772 89772 89772 21848 21848 21848 22072 22072 22072	3297104 3213794 33007071 33151294 33000701 2375801 2328551 2832886 2836434 2841758 2823872 2770675 2747286 2747598 2745100 28961247 289612	0.00800359 0.00780137 0.00074964 0.000308327 0.00074964 0.000308327 0.00028173 0.00028173 0.00028173 0.000281434 0.0002822 0.000387132 0.000371459 0.000371459 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726 0.00038726	67731 67688 89772 21848	2939604.5 2833637.5 2759303.6 2685367 2677743.25	€0.000302853 €0.000291554 €0.000378534 €0.00008918:	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Transactions for key return (one line per authority)	0xA501Bcac8026310896295263CB0751381667A899	€1,445.32
2023-02-09 2023-02-09	0.3 0x5146458bca0067re6ebc006cd8bc1ea8638eb04460251118614418bc3856a7bbD77 0.3 0x53146986c256986cd663872d3734254e58indacdbc3400bc44681e78763900b77 0.3 0x53146986c256986cd683872d3734254e58indacdbc3400bc44681e78763900b74 0.4 0x52462d267fe46019bc3a6bc6df4bbb46881500ba57765234bbb61e2034939448 0.4 0x524627656e26526876e36679860264d1612a620cb66678b441748481780 0.4 0x5240794c275744214dc5301dbffss2600478f725bbb36747a6eact15633725 0.4 0x5824673689c865554879782624466537458bb3674747a6eact15633725 0.5 0x562066d2a2e3005e5663586078b224465374725bbb3674736e36415633725 0.5 0x562066d2a2e3005e5663586078b2246465374b258bb3674672565363805ceb077e29 0.5 0x4744673387845826525489034026e8680b625242bb6047e472569708a5 0.5 0x64264633881826202698094026e868065262242bb6047e47256986896886 0.5 0x64264633881826202698094026e868065262242bb6047e47256986896886 0.5 0x642646338074526141465776988634618696065628388726486896888662 0.5 0x64264633807486476564667666647600034066766666476666866666666666666666666666	159993 159993 159993 159993 67731 67731 6768 67688 67688 67688 67688 89772 89772 89772 21848 21848 21848 21848 22072 22072	3297104 321379 321379 33151294 33000701 2292551 22975801 2292551 22932486 2833486 2833487 22941728 2833972 2758561 2770875 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298 2747298	0.00800359 0.00781037 0.00078494 0.00038842 0.00038847 0.00038843 0.000231438 0.000231438 0.000231438 0.000231844 0.0002322 0.00038738 0.000374939 0.000374939 0.0003872 0.00088728 0.00008872	67731 67688 89772 21848 22072	2939604.5 2833637.5 2759303.6 2685367 2677743.25	€0.00030265: €0.000291556 €0.000376534 €0.00008918: €0.00008984	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  8  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  6  7  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  7  Transactions for requesting the key via blockchain (one line per authority)  7  Transactions for requesting the key via blockchain (one line per authority)  8  Contract creation  Contract creation  Contract creation	0x4501Bcac8026310896295263CB0751381667A899 0x34E15cfAe588546aE3edeF536C7dd2C82D80c318	€1,445.32
2023-02-09 2023-02-09	0.3 0x1514d58bcs00647ce6ed006cd8bc1caet03seb044e0275111bc1418bc3856z7bcb7 0.3 0x1514d58bcs00647ce6ed005cd8bc1caet03seb044e02511bc1418bc385cb7bcb7 0.3 0x1514d58bc26bf8bcd6d837c2d373d254e5f8bcdcbd14b0bc408b19bc1e37839080f 0.3 0x159e3c2d047ce48019bc3a8cbcdef4bbc408b19b04575f2234bbb6 bc1203493e448 0.4 0x1203eead21d58cfeac2838t13c6bf0d16bcaer7bc25bc8dd3bcd4e6ea7bc1014d4738 0.4 0xc2e40273e4c757b42414dc5301dbtfsa5a26bd3bc47bc25bc8d5bc74d4e6a7bc1164d73a7bc4 0.4 0xc2e40273e4c757b42414dc5301dbtfsa5a26bd3bc47bc25bbc3d7addeet1f58337bc3 0.5 0xc8bc47bc3bc8c35c407bc78bc244ce6371bc8d2bc3bc47adeet1f58337bc2 0.5 0xc8bc3dc2ae005seb6c35607bc8de46441tcfsdfa6aacd457c5bc3bc3bc7c5bc7c9 0.5 0xd74d473358f1982dc2bc896334dc2bc8bc3bc48bc48bc20553e905cb07cc9 0.5 0xd74d473358f1982dc2bc896334dc2bc8bc3bc48bc48bc20553e905cb07cc9 0.5 0xd74d473358f1982dc2bc89633ddc2bc8bc3bc3bc3bc3bc3bc3bc3bc3bc3bc3bc3bc3bc3b	159993 159993 159993 67731 67731 67731 67688 67688 67688 67688 67688 67788 289772 89772 29772 21848 21848 21848 21848 22072 22072 22072 22072 1692477 1692477	3297104 3213794 33007071 33151294 33000701 22975801 2298551 2832486 2832486 2832487 22786651 2270675 22747285 22747286	E0.00880359 E0.00781037 E0.00774984 E0.003089427 E0.003089437 E0.003089437 E0.003089437 E0.003089437 E0.003089437 E0.003089438 E0.003089438 E0.003089438 E0.00374939 E0.00374939 E0.00374939 E0.00374939 E0.00374939 E0.00089628 E0.00089638 E0.00089638 E0.00088638 E0.00088638 E0.00088638 E0.00088638 E0.00088638 E0.00088638 E0.00088638	67731 67688 89772 21848 22072	2939604.5 2833637.5 2759303.6 2685357 2677743.25	€0.00030265: €0.000291556 €0.000376534 €0.00008918: €0.00008984	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  8  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  6  7  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  7  Transactions for requesting the key via blockchain (one line per authority)  7  Transactions for requesting the key via blockchain (one line per authority)  8  Contract creation  Contract creation  Contract creation		€1,445.32
2023-102-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1ae8i33ebb4la025111814418h385fa7b0b77  0.3 0x51d9e6c25695dcdes63572d57372d545fadcdcfb40bc48t8150bf1e767339065  0.3 0x169e2dc37rde46019bb3a6bcdefd4bb4de8150bf1576234bb61e12034939444  0.4 0x1203eead21d55cfea238413c640dc1daea7e02bb8d396d4e6e637be101445737  0.4 0xc120794c757f44214dc5301dbf1e5a260d7ar725bb83d7Ar3deac115633725  0.5 0xc60d6a2ea005a86cd35007ba72624c4537164e18d3386ea3335bc3d34161e6a206367  0.5 0xc60d6a2ea005a86cd35007ba72624c454116ba73a8ce36565656566666  0.5 0xc60d6a2ea005a86cd35007ba72624c454116ba73a8ce3656564893a26780335bc3d34161e0a  0.5 0xc60d6a2ea005a86cd35007ba72624c454116ba73a8ce3656564893a26780378e3  0.5 0xc60d6a2ea005a86cd35007ba72624c45416ba73a8ce365664893a26780378e3  0.5 0xc60d6a2ea005a86cd35007ba72624c454116ba73a8ce365664893a26780378e3  0.5 0xc40464333819c26c0248930402e88480bc22428bb047e267569706a5  0.5 0xc40464335869771141bb05263580553496530031aec9140363388ea881c22  4. 0xc46ba433569771141bb05263580553496364864967646678667667866786786786786786786786786786	159993 159993 159993 159993 67731 67731 67731 67788 67688 67688 67688 67688 89772 89772 89772 89772 21848 21848 21848 22072 22072 22072 22072 22072 767153	3297104 321379 33151294 33000701 2975801 2928551 2928551 2832866 2832866 283443 2841758 2832872 2747586 2747586 2745100 28694186 287694 2869415 2676905 2567055 25670731	0.00800359 0.0078197 0.00074964 0.000308842 0.000308842 0.000308847 0.000281737 0.000281737 0.000281438 0.000281438 0.00038132 0.00038132 0.00038972 0.00038872 0.00038378 0.00038378 0.00038378 0.00038378 0.00038868 0.00038868 0.00038878 0.00038878 0.0008872 0.00088878 0.00088878 0.00088878 0.00088878 0.00088888 0.00088888 0.00088888 0.00088888	67731 67688 89772 21848 22072	2939604.5 2833637.5 2759303.6 2685357 2677743.25	€0.00030265: €0.000291556 €0.000376534 €0.00008918: €0.00008984	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Transactions for requesting the key via blockchain (one line per authority)  Contract creation		€1,445.32
2023-02-09 2023-02-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1ae8038eb04fa025111b814418fb385fa7b0bf7 0.3 0x5134ge86c259f86doe5872d37372d546fadacdbf340bc48f81e787339096f 0.3 0x169e2dc307ee4e8119b5a8cbceff4bbc48d8150dbf51756234bbbe12403439e448 0.4 0x1203eead21d556fea28813ce40ge410aea7e02bb8d303ed4e6e6a7be101445737 0.4 0xc5ee15c60ae1269867ee4679602644f412dc20bc56678b41748481780 0.4 0xc1290794cr757464144c5301dbffsa5a269d7ar725bb63d7ar7adeat15633726 0.5 0xc606dae2ea005e86c9556f77ab72584244e5637164b18d3386fea3338be3335bbd34161eba 0.5 0xc606dae2ea005e86c9556f7b7ab72684244e5637164b18d3388fea3338bbd333bbd34161eba 0.5 0xc606dae2ea005e86c9556f7b7ab72684244e5637164b18d33386fea3338bbd333bbd34161eba 0.5 0xc606dae2ea005e86c9556f7b7ab72684244e5637164b18d33386fea333bbbd34161eba 0.5 0xc606dae2ea005e86c9556f7b8224e46637164b18d3386fea5335bbd34161eba 0.5 0xc606dae2ea005e86c9556f7b82444e53416ba64e65765c9658548965c9656e076e2 0.5 0xc4744d3358f82c6c2de8869042e2e86e062e542e5b6a44ec6756e7666a 0.5 0xc606da8ba64056869d4ce807466f7c96fc550001aec917e062e556a1e6e6658686866 0.5 0xc606da8ba64056869d4ce807466f7c96fc550001aec917e062e556a1e666658686866 0.5 0xc606da8ba6405686764686766666666666666666666666666666	159993 159993 159993 159993 159993 159993 67731 67731 67731 67731 67788 67688 67688 67688 89772 89772 89772 21848 21848 21848 22072 22072 22072 22072 22072 22072 72072 767153 67153 67153	3297104 3213794 3315724 33000701 2975801 2928551 2832885 2832885 2836434 2856434 2856436 28770675 22747285 22747586 22745100 26961247 269691247 269691247 269691247 26969125 2526055 2526055 25266573 25266573	0.00800359 0.00780137 0.00074964 0.000388427 0.000388427 0.000281737 0.000281737 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.000281434 0.00038178 0.000374599 0.000374599 0.000088728 0.000088728 0.000088728 0.000088728 0.00088728 0.00088828	67731 67688 89772 21848 22072	2939604.5 2833637.5 2759303.6 2685357 2677743.25 5267393	€0.000302655 €0.000291556 €0.000376531 €0.000089185 €0.000089845 €0.000089845	(each of them: one transaction per authority)  2  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  5  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  6  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  7  Transactions for requesting the key via blockchain (one line per authority)  6  Contract creation  Contract creation  Contract creation  Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2 key_on_block		€1,445.32
2023-02-09 2023-02-10 2023-02-10 2023-02-10 2023-02-10	0.3 0x514458bca0067re6eb0f0cd8bc1ea8f3seb0446025111b614418bc3856r7bbf7 0.3 0x53146se6c25696bcd68372d373d254e5findacdtbc1400b408f1e37839060f 0.3 0x53146se6c25696bcd68372d373d254e5findacdtbc140bb408f1e37839060f 0.3 0x169e622d0rffee48019bc3abcbcdf4bbb408f1950b615756224bbb61e2034939448 0.4 0xc3e4c1565c6e122868f7e645796024d4f1d2sc220b656678b41748481780 0.4 0xc1290734c775744214dc5301dbffss26c80d7sf725bb03d7arf3e6e11154337378 0.4 0xc1290734c775744214dc5301dbffss26c80d7sf725bb03d7arf3e6e115633725 0.5 0xc8c06d3a2ea005sb66d556078b2e4e3441tbcffs6aec4567e5c4633ad2760379e33 0.5 0xabarf42325a700d707104c411d8972c270ac2dd55664882055363806bce0756756970e35 0.5 0xc44c465338f1952c62bc89673d025e86ab692242fbc8047e7c275569970e35 0.5 0xc44c465338f1952c62bc89673d025e86ab692242fbc8047e7c275569970e35 0.5 0xc44c465338f1952c62bc89673d025e86ab692242fbc8047e7c275569970e35 0.5 0xc44c465338f1952c62bc89673d025e86ab692242fbc8047e7c275569970e35 0.5 0xc44c465338f1952c62bc89673d025e86ab692242fbb03d7e7c275569970e35 0.5 0xc44c465338f1952c62bc8967460765eff5030031aec31d035c388e5286815c22 0.5 0xc800ad6881026058094cae97460765eff5030031aec31d035c388e52872af180396890505 0.5 0xc44c465330364cae947460762f6674500031aec3146062568e8646868656cae31 0.5 0xc800ad68472e614465775978883d16518698605863828272af180396890505 0.5 0xc800ad68472e6144657778466865263463657566472857768e8896508 0.5 0xc800ad6847626646000204e48338610c68896056666622387708e8896508 0.5 0xc800656655665674466291144e433a086d90004c241324674869696 0.1 0xc800656665366530056656744662911446433a086d90004c241324674696788644 0.3 0xc80065666536653605656744662911446433a086d90004c241324674696788644 0.3 0xc80065666536653605665674662614646433686566960064686766cae311 0.0xc604536566626240657790666982614666766cae311646666666666666666666666666666666666	159893 159893 159893 67731 67731 67731 67688 67688 67688 67688 89772 89772 89772 21848 21848 21848 21848 21948 21972 22072 22072 22072 72072 73074 75153 77153 77153 77153	3297104 321379 321379 33151294 33007011 2928551 2928551 29383956 2832496 28341758 2841758 2841758 2841757 285172 2747286 2747598 27475	0.00800359 0.00781037 0.00074964 0.000308478 0.000308478 0.000308478 0.000308478 0.00031843 0.000231844 0.000231844 0.000231844 0.000231844 0.000231844 0.000237815 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.00038132 0.00038132 0.00038132 0.00038132 0.00038132 0.00038132 0.00038132 0.00038132 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138 0.00038138	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685357 2677743.25 526772.667	€0.000302655 €0.000291556 €0.000376531 €0.000089185 €0.000089845 €0.000089845	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Occurrant creation  Contract creation  Transactions for key return (one line per authority)  Occurrant creation  Transactions for key return (one line per authority)		€1,445.32
2023-12-09 2023-12-09	0.3 0x51dd56bca09d7ee5ed06cd8bc1ae8038eb04la025111b814418h385fa7b0b77 0.3 0x51d9ae6c25985doc496372d3732d546fadcdbf340bc48t81e7873390967 0.3 0x169e2.d2076e48019b3a8bc6edf4bbb4488150b157692340bbe17493390484 0.4 0x1203eead21d556clea238413c400d610aea7e02b86d30bd46e6a7be101d43737 0.4 0xcs120794cc757k44214dc5301dbffas2a00d7ar725bb33d747adeac115633726 0.5 0xc605da2ea005e86c3560f7ab7628464537164b18d3386lea3336bc3335bc34161e02 0.5 0xc605da2ea005e86c3560f7ab762842445837164b18d33386lea3336bc3335bc34161e02 0.5 0xc605da2ea005e86c3560f7ab76284244537164b18d33386lea3336bc3335bc34161e02 0.5 0xc605da2ea005e86c3560f7ab762842445637164b18d33386lea3336bc3335bc35161e02 0.5 0xc605da2ea005e86c3560f7ab762842445637164b18d33386lea3336bc3335bc356b07ce07 0.5 0xc474c43538f18e2c0c2488603402e686a96e25c24b5bba47ecc7569706a5 0.5 0xc474c43538f18e2c0c2488603402e686a96e25c24b5bba47ecc7569706a5 0.5 0xc444c43538f18e2c0c2488603402e686a962c24b5bba47ecc75696058086056 0.5 0xc444c4353650771144b6562538bc35c3514e60c276062d58a1e6bc46f38ccae11 0.4 0xc464333650771144b6562538bc35c3514e62356303456666967666caab7605 0.4 0xc46333650771144b6562538bc35c3514e6235660c36656669706e2 0.4 0xc467a245746569936384667604062e88162607666caab7605 0.4 0xc467a3560771144b6664566567604626965766664786ccae11 0.4 0xc46433560771144b65663685657646666786ccae11 0.4 0xc46433560771144b65663658657646666786ccae11 0.4 0xc46433560771144b65666764666786ccae11 0.4 0xc46433560771144b65666786766676666786ccae11 0.4 0xc46433560771144b6566678676676667666766676667666766676667	159993 159993 159993 159993 159993 1759993 159993 17731 67731 67731 67731 67788 67688 67688 67688 67688 89772 89772 89772 89772 21848 21848 21848 22072 22072 22072 22072 22072 22072 22072 22072 22072 22072 22073 67153 67153 67153	3297104 321379 321379 33151224 33000701 2975801 20232551 20323551 20323551 2032351 203	0.00800359 0.00781137 0.00074964 0.000308842 0.000308842 0.000308842 0.00031513 0.00025138 0.00025138 0.00025138 0.00025138 0.00025138 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.00037815 0.0003872 0.0008872	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685367 2677743.25 5266772.667 5266895	€0.000302855 €0.000281551 €0.000376534 €0.000089185 €0.000089845 €0.000511185	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Contract creation  Transactions for key return (one line per authority)  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier 1, supplier 2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier 1, supplier 2) key_on_block		€1,445.32
2023-02-09 2023-02-09	0.3 0x514458bcs0067re6eb0f0cd8bc1ea863seb04460251110814418h038567b0b7 0.3 0x53146se6c256966cd683872d3734254e5finadcdbc1406b40891e378330908f 0.3 0x1596e22d0rfee48019bc3a8cbcafdkbb40e81500bs15756224bbb61e2034939448 0.4 0x26ea4251d55cfea238313c6406d1bb40891500bs15756224bbb61e2034939448 0.4 0x26ea4251d55cfea238313c6406d1baar7e62b86d30cd4de6a7be101447378 0.4 0xc1260734c75754214dc5301dbffsa5260d7aff25bb03d7a7da6eat115633725 0.4 0xc1260734c75754214dc5301dbffsa5260d7aff25bb03d7a7da6eat115633725 0.5 0xc2697869c8556475767562444665310dbffsa5260d7aff25bb03d7a7da6eat115633725 0.5 0xc36e36389058665435607882e648441t0fdfsa6ac456765c4633a42760378e33 0.5 0xc36e742325a7000171014cr1 a656722e70ac2d68564a8920553a905ceb07ce0 0.5 0xd74463389182cfc25b890334029e836426245555ba03fcac75596970635 0.5 0xd746433581935cdc26896904cae9746697e6fc45030031aac61d035c3088e38851c26 0.5 0xd360ad380bad205080604cae9746097e6f630031aac61d035c30888638861c26 0.5 0xd360ad380bad205080604cae9746097e6f645003031aac61d035c30888638861c26 0.4 0xc26ad344512ec111446577e69883d1641E0806253828272a1fa809368905056 0.4 0xc26ad345124ce111445577e69883d1641E0806253828272a1fa809368905056 0.4 0xc26ad345124ce111445577e69883d1641E0806253828272a1fa809368905056 0.4 0xc26ad345124ce111445577e69883d1641E0806253828272a1fa8093689050456 0.4 0xc36ad345124ce111445577e69883d1641E080646869065668ea076108686666666666666 0.4 0xc36ad345767046666765666744662911446433a080d390040426132567546466666666666666666666666666666666	159993 159993 159993 159993 159993 159993 157731 67731 67688 67688 67688 67688 67688 89772 89772 29772 21848 21848 21848 21848 21848 22072 22072 22072 22072 22072 22072 25775 67153 67153 67153 67153	3297104 3213790 3213790 33151294 33000701 22975801 2292551 22975801 2292551 22935305 2832486 2832486 2832487 22745265 22747265 22747265 22747265 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 2274726 22696411 226964186 2267731 2266826 22668273 22668273 22668273 22668273	E0.00800359 E0.00781037 E0.00774964 E0.000308942 E0.000308977 E0.000308977 E0.000251843 E0.000251843 E0.000251843 E0.000251843 E0.000251843 E0.000251843 E0.000251843 E0.00025185 E0.000374539 E0.000374	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685357 2677743.25 526772.667	€0.000302655 €0.000291556 €0.000376531 €0.000089185 €0.000089845 €0.000089845	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Contract creation  Transactions for key return (one line per authority)  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier 1, supplier 2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier 1, supplier 2) key_on_block		€1,445.32
2023-12-09 2023-02-10 2023-02-10	0.3 0x51dd56bca0067re6eb06cd8bc1ael853eb04fa0251118b418b1385fa7bb177  0.3 0x5149e86c2569f8cdes68372d5732254e8f8adcdb1400251118b418b1385fa7bb177  0.3 0x5149e86c2569f8cdes68372d5732254e8f8adcdb14004b4f89f1e97839309448  0.4 0x1203eead21d55cfea238415c640d610aea7e02b86d396d46e6a7be101445733  0.4 0xc2e94c156c6e12668f57e65479f806204df412acd2cbd56c78b41748481790  0.5 0xc2e94c156c6e12668f57e64579f806204df412acd2cbd56c78b41748481790  0.5 0xc2e94c156c96f8c965e64579f806204df412acd2cbd56c78b4747adeact159633725  0.5 0xc2e94c98c96c56d73873b244e5331db4fas5a20607af725bb33d747adeact159633725  0.5 0xc2e67e42325a7000f7014cd1ae59722a70ac2dc56564a925653a905c6a07ce97  0.5 0xc4e4643538f9c96c2b9869043ce98f496f7e6ff530031aec91403c3088e3886265  0.5 0xc4e645388f9c96c2b9869043ce98f486f7e6ff530031aec91403c3088e3886866  0.5 0xc4e6433886977082a6464667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e388667664  0.5 0xc4e6433886977184f68f7e6ff6530031aec91403c3088e3868666  0.5 0xc4e6433886977084667e6ff530031aec91403c405686666666caab7e656  0.5 0xc4e6433886977184f68f7e6ff67e6ff530031aec91403c405388686866666666caab7e656  0.5 0xc4e6433886977184f68f7e6ff67e6ff630031aec91403c405656666666caab7e656  0.5 0xc4e6433886977184f68f7e6f67e6f630031aec91403c405656666666caab7e656  0.5 0xc66666666666666666666666caab7e656666666caab7e65666666666caab7e65666666666666caab7e6566666666666666666666666666666666666	159993 159993 159993 159993 159993 159993 17731 67731 67731 67731 67788 67888 67888 67888 67888 89772 89772 89772 89772 21948 21848 21848 21848 221848 22072 22072 22072 22072 767153 67153 67153 67153 67153 67153	3297104 321379 321379 33151224 33000701 2375801 2328551 2328551 2328551 2328551 2328551 2328551 2328551 2328551 2328551 232857055 2328572 23528505 23285735 2528623 2528623 2528623 2528623	0.0080339 0.0078193 0.0078193 0.0077494 0.00074964 0.0038842 0.00308872 0.0022173 0.00	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685367 2677743.25 5266772.667 5266895	€0.000302855 €0.000281551 €0.000376534 €0.000089185 €0.000089845 €0.000511185	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Contract creation  Transactions for key return (one line per authority)  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		€1,445.32
2023-02-09 2023-02-09	0.3 0x1514d56bcs00607e6ebc006cd8bc1ed803ae0bc4e025111b614418h03s65a7b0b7 0.3 0x5314dse06c25696bcd63872d373d254e5finadcdbc140bc4b8191e378330906f 0.3 0x159e622d07fee48019bc3a8cbcdefkbbc4d891509bc575f224bbb61e203493e448 0.4 0x1203eead21d56cfea238313c6bd6d1bbc4d89150bl6s175d224bbb61e203493e448 0.4 0xc3ee4125d5cfea238313c6bd6d1baea7e62bb8d3bc8de6e8a7be101445738 0.4 0xc126073e4c757b4214dc5301dbffsa26b007af725bbb3d7a7adeex116483178 0.5 0xc26ed73f74d241dc5301dbffsa26b007af725bbb3d7a7adeex115833728 0.5 0xc8bc9d57a757b4214dc5301dbffsa26b007af725bbb3d7a7adeex115833728 0.5 0xc8bc9d5a2e005a68d55607B82e4e643414bdfdsaacd457e5c64d3a4276037be33 0.5 0xc8bc74433536719362dc52b8980304029e863e2de5575bbb3d7acc7559697085 0.5 0xc8bc9d5a2e005a68d55607B82e4e63414bdfdsaacd457e5c64d3a4276037be33 0.5 0xc8bc74433536719362dc52b8980304029e863e2de5245b5bd347ecc7559697085 0.5 0xc8bc9d5a26b004ce80746607e5de56530031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de56530031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de565002652de565b0a47ecc7556997085 0.5 0xc8bc9d5a26b004ce80746607e5de5650027e602d6866488020583a905cb07e69 0.5 0xc47444533681942ce1144d5577e6983d16461785cce11745650031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de5650031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de5650031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de5650031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b004ce80746607e5de5650031aacc11d35c308e3b81c26 0.5 0xc8bc9d5a26b005666000546000546000546003646860960566868605668686056660666 0.5 0xc8bc9d5a26b00566600054600666600566686066686666666666	159993 159993 159993 159993 159993 159993 159731 67731 67688 67688 67688 67688 67688 89772 89772 21848 21848 21848 21848 21848 21848 21848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71848 71853 71853 71853 71853 71853 71853 71853 71853 71853 71853	3297104 3213790 3213790 33151294 33000701 22975801 2292551 22975801 2292551 22935305 2832486 2832486 2832487 22745265 22747265 22747265 22747265 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 22747266 2274726 22696411 226964186 2267731 2266826 22668273 22668273 22668273 22668273	ED.00800359 ED.00781037 ED.00764964 ED.000308942 ED.000308942 ED.0003089437 ED.0003089437 ED.0003089438 ED.0003089438 ED.0003089438 ED.00037499 ED.0003749	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685367 2677743.25 5266772.667 5266895	€0.000302855 €0.000281551 €0.000376534 €0.000089185 €0.000089845 €0.000511185	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Transactions for requesting the key via blockchain (one line per authority)  Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		€1,445.32
2023-02-09 2023-02-09	0.3 0x51dd56bca0067re6eb06cd8bc1ael853eb04fa0251118b418b1385fa7bb177  0.3 0x5149e86c2569f8cdes68372d5732254e8f8adcdb1400251118b418b1385fa7bb177  0.3 0x5149e86c2569f8cdes68372d5732254e8f8adcdb14004b4f89f1e97839309448  0.4 0x1203eead21d55cfea238415c640d610aea7e02b86d396d46e6a7be101445733  0.4 0xc2e94c156c6e12668f57e65479f806204df412acd2cbd56c78b41748481790  0.5 0xc2e94c156c6e12668f57e64579f806204df412acd2cbd56c78b41748481790  0.5 0xc2e94c156c96f8c965e64579f806204df412acd2cbd56c78b4747adeact159633725  0.5 0xc2e94c98c96c56d73873b244e5331db4fas5a20607af725bb33d747adeact159633725  0.5 0xc2e67e42325a7000f7014cd1ae59722a70ac2dc56564a925653a905c6a07ce97  0.5 0xc4e4643538f9c96c2b9869043ce98f496f7e6ff530031aec91403c3088e3886265  0.5 0xc4e645388f9c96c2b9869043ce98f486f7e6ff530031aec91403c3088e3886866  0.5 0xc4e6433886977082a6464667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e38868666  0.5 0xc4e6433886977084667e6ff530031aec91403c3088e388667664  0.5 0xc4e6433886977184f68f7e6ff6530031aec91403c3088e3868666  0.5 0xc4e6433886977084667e6ff530031aec91403c405686666666caab7e656  0.5 0xc4e6433886977184f68f7e6ff67e6ff530031aec91403c405388686866666666caab7e656  0.5 0xc4e6433886977184f68f7e6ff67e6ff630031aec91403c405656666666caab7e656  0.5 0xc4e6433886977184f68f7e6f67e6f630031aec91403c405656666666caab7e656  0.5 0xc66666666666666666666666caab7e656666666caab7e65666666666caab7e65666666666666caab7e6566666666666666666666666666666666666	159993 159993 159993 159993 159993 159993 17731 67731 67731 67731 67788 67888 67888 67888 67888 89772 89772 89772 89772 21948 21848 21848 21848 221848 22072 22072 22072 22072 767153 67153 67153 67153 67153 67153	3297104 3213790 3213790 33151294 33000701 2292551 22975801 2292551 22938486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832486 2832472 2745286 2747286 27	0.0080339 0.0078193 0.0078193 0.0077494 0.00074964 0.0038842 0.00308872 0.0022173 0.00	67688 89772 21848 22072 1692477 67153	2939604.5 2833637.5 2759303.6 2685367 2677743.25 5266772.667 5266895	€0.000302855 €0.000281551 €0.000376534 €0.000089185 €0.000089845 €0.000511185	(each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for requesting the key via blockchain (one line per authority)  Contract creation  Transactions for key return (one line per authority)  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		€1,445.32

Test date O	p type Transaction hash	GasUsed (unit) Ga	sPrice (wei) Final o	ost €	Average gas	Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-10	0.1 0xf8b263628ee47a801a4498641080e794e2a9a7e135271f00c714819737171b9a	67755	5266403	€0.000515727		5266427.5	€0.000515729	, , , , , , , , , , , , , , , , , , ,		
2023-02-10	0.1 0x1b6bad621630bc3a0822c4d7c60a7a53440b92fdd0e59db5e5d1bf3ef3d7cf31	67755	5266457	€0.000515732				Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-10	0.1 0x334e890f4da670447d497cad4eb71830674a09b86773f2c4febcdc1a7cc39187	67755	5266445	€0.000515731				authorities (each of them: one transaction per authority)		
2023-02-10	0.1 0x782183b8d168910c8b9f493e5b60ed2650136c045462a5529649e3fce8bca0c9	67755	5266405	€0.000515727						
2023-02-10	0.2 0xf93e280a044913846aa568ee0c1d87c8ae47bc99cab773b5e957126aa2c9f0f3	113680	5266318	€0.000865277	113680	5266311.5	€0.000865276			
2023-02-10	0.2 0x74ccb1b518641f7cb67de4dc3d9f3745d9f0649c1ae9d4fadd7e56d32d970944 0.2 0xdfa025807f554286e7faba3d50d4816d16d53acabdd9e0bcaf6bdf0377efeed6	113680 113680	5266330 5266297	€0.000865279 €0.000865274				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.2 0x732d0a0b443340bdd28166c1cf5d46ef48717ba16f4363ebc2e6d5cb7b547caa	113680	5266297 5266301	€0.000865274				additionable (capit of them. one transaction per datalons)		
2023-02-10	0.3 0xace9b3e0bff60b5e33ca040b918c4e7cf943b88df9b22d0b2327d35a20893d64	159693	5266286	€0.001215498	159693	5266305	€0.001215503			
2023-02-10	0.3 0x1b1f25305a75c0e8d05f1d1450fff9a61e0d0b82c7dd80bbe2b5021b7971e1df	159693	5266288	€0.001215499	100000	0200000	CO.001210000	Transactions for the storage of the elements. 0.3 action of the authorities		
2023-02-10	0.3 0xa4145a56c2a0453ea50f295cd16fbc1398ee187a55b8e6e128612a4786f5927c	159693	5266310	€0.001215504				(each of them: one transaction per authority)		
2023-02-10	0.3 0xcf7b9ede7ede41507b54b0da1bb738d2c8161316e88f367a5de1de68e5769e3e	159693	5266336	€0.001215510						
2023-02-10	0.4 0x698a724e07eac98f57dae51832ba370e1bda67a56e46b1ef0aaa15a0c1516b7e	67731	5266320	€0.000515536	67731	5266339.5	€0.000515538			
2023-02-10	0.4 0x47cfa208f1340201ac9a3f763fc45313fab6b127d31a294b48515b09abeed77c	67731	5266341	€0.000515538				Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-10	0.4 0x09434873cf8f82558a4e506d73fb348146580a205d96363468c9688bf7122576	67731	5266331	€0.000515537				authorities (each of them: one transaction per authority)		
2023-02-10	0.4 0x6be8f6313429b17e5a6293cf898ecf7244474c5f4efd4a9e6cb710e4cb24cb55 0.5 0xd34268001c30172283f5d5143e97c0e959475166650938a013a01a7b30f2c15f	67731 67688	5266366 5266335	€0.000515540 €0.000515210	07000	5266458.5	€0.000515222			
2023-02-10	0.5 0x48f26d258bdbf092c7fd361551f777d57844e640f996869106762d55d95a4d0b	67688	5266437	€0.000515210	67688	5200458.5	€0.000515222	T		
2023-02-10	0.5 0x1179b375101ee417928e2d37031a66dafa4562147b98e2efd0b29aa4c237bd63	67688	5266498	€0.000515226				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.5 0x71d9a57927a6ab4e464b2b2e1e04aed239e3b2ad37bbca4fced4666b6f3f8d19	67688	5266564	€0.000515232						
2023-02-10	2.4 0x4d6f5846e792397ed2b134e227550cf39967350aee993182f1ceed0f8a618f96	89772	5266682	€0.000683348	89772	5266682.2	€0.000683348			
2023-02-10	2.4 0xa521c12f28badc19fb516edef1a322a970adb29a7bc1a26699047125b3bc634d	89772	5266800	€0.000683363						
2023-02-10	2.4 0x4e020c9799ab075666a6cac9c81768bd3ade3b1a20b8ca6f6f10838580233589	89772	5266717	€0.000683353				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-10	2.4 0x994f24da3167ff21d7a182a2e4877bb14f70105a31b7799ba20c4691dada9988	89772	5266647	€0.000683344						
2023-02-10	2.4 0x98b11bb577c41145ac606053fa300be30740717488d93806d0dcfd66046bc020	89772	5266565	€0.000683333						
2023-02-10	1.31 0xa4c552c78c73179eb460aa82b7ad6da8001c1f9e21b13d29dfb3aa5dbc58afae	21832	5266581	€0.000166183	21832	5266595.75	€0.000166183			
2023-02-10	1.31 0xd92d099cbc4b2ea1408edff70050a318cd8b86907d505d9794cc32109ff710b1	21832	5266534	€0.000166181				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-10	1.31 0xac3b026cca9cadccdcbdd04d933c731590fc4884f838fdd428c8bdb239ed9079 1.31 0x088c2e806284775eae6c4ec444fade5fae0d6013efb459b210442702458bf801	21832 21832	5266618 5266650	€0.000166184 €0.000166185				- Lauriony)		
2023-02-10	1.32 0xe7c6bd2286127656c5238d854b24ea4e969fb7efda6d0a3887c020bf526030d2	21032	5266520	€0.0001667886	22056	5266589	€0.000167888			
2023-02-10	1.32 0xdf763b5b00d296303b949a190cfa275eefd0500bc0c8d101708669c17072642f	22056	5266583	€0.000167888	22000	0200000	0.000107000			
2023-02-10	1.32 0xa2fb2b96ffe2cc853cf1fd81d5f2cf2ca3a0b144a16b83fb06453b234748e1e8	22056	5266643	€0.000167890				Transactions for key return (one line per authority)		
2023-02-10	1.32 0x4d5178b1dc3a9e4184e3d5bdfc964bd4be79e247c834fc08af71b86f6ec6ef08	22056	5266610	€0.000167889						
2023-02-11	-1 0x0864a44a0b65d744c8a5baf201e7b072650b9ebb80dfe26403adfb979d5221de	1692477	99997445	€0.240934870	1692477	99997446	€ 0.24093487208620300000	Contract creation	0x6D5B03A986442f93f44C54826874D04A4685a055	€1,423.60
2023-02-11	-1 0xee87326db9dcbb4d413df294c74e1f2a12116c56845eedb222dada0edcede492	1692477	99997447	€0.240934874				Contract creation	0x7DF351501a4Fc9759347eF59A493881fdcfD396F	
2023-02-11	-2 0x46c3500c41ab9bcc8bcb3dfa87f6f2f7fb6cee1356e1ef047ef6349d107af312	67153	99997445	€0.009559657	67153	99997444.67	€0.009559657	Transactions for storing public key readers (actors). One for each of the		
2023-02-11	-2 0x4cf6534ccd56dc786ac178f9628f2d07a3d2b07fa76c9d1332a5f85bc78bc277	67153	99997445	€0.009559657				users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-11	-2 0xa2ca96d2ff75e705e14118158dd5bdf1fbc781219c7cfd980d47317672aaf409 -3 0xdc451795110e20892e9593984bdca887f35afe37fde47082693ff615c807fcef	67153 67153	99997444	€0.009559657 €0.009559657	07450	99997446.67	€0.009559657			
2023-02-11	-3 0xfe95a5e05adc68fd0281d2c77e5521494e8fa9e78b19476dfb0aa7319fd09a30	67153	99997447	€0.009559657	6/153	9999/446.6/	€0.009559657	Transactions for storing public key readers (actors). One for each of the		
2023-02-11	-3 Oxbcfa3e41d14f4727f5a46d6cf36838f5eaef47401d39bd6225d185650c6ce431	67153	99997446	€0.009559657				users (manufacturer, supplier1, supplier2) main		
2023-02-11	1.2 0xd297b36dfbb414500f32784cf3ae6fb15d81fad20f9a0710260c85687743277e	67533	99997443	€0.009613752	67533	99997444.2	€0.009613752			
2023-02-11	1.2 0xd297b36dfbb414500f32784cf3ae6fb15d81fad20f9a0710260c85687743277e 1.2 0xcab5fcbb9ccbeb8d12dabc46a305b0f34bf48c4e1da4ba7eb669959e62536470	67533 67533	99997443 99997444	€0.009613752 €0.009613752	67533	99997444.2	€0.009613752			
					67533	99997444.2	€0.009613752	Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-11 2023-02-11 2023-02-11	1.2 0xcab5fcbb9ccbeb8d12dabc46a305b0f34bf48c4e1da4ba7eb669959e62536470 1.2 0xc262ff27dc6798039d0f13e138eb7b2999e93348cc73d2bce83b9a6d69d4ca64e 1.2 0x0d025ccd2c1890298a6557d707456c8df1fb9f049b90418f3253f249b1c2c1bd	67533 67533 67533	99997444 99997445 99997445	€0.009613752 €0.009613752 €0.009613752	67533	99997444.2	€0.009613752	Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
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2023-02-11 2023-02-11	1.2 (avab5fcbbecchebel 12.dabc46a;05b001444904e11s46a7e169805960259470 1 2 0.28281273 cds7980398011 set 138e57b299983348cc732dbce83b4e868044ca84e 1 2 0xd0225cc262c18902598a557c70745ebc8ft1b0014960411825235124961 c2c1 bd 1 2 0xd0225cc262c18902598a557c70745ebc8ft1b001496041825235124961 c2c1 bd 1 2 0xd0225cc262c18902598a557c70745ebc8ft1b001496041825235124961 c2c1 bd 1 0xd21647678e869855015965942522565696103503598696183579661822417324 1 0xd21467678e69869501596242522565964988963837896181322417324 1 0xd214675678689685015962425256562565545685836383623610532471344 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	67533 67533 67533 67533 67533 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 159693 17731 67731 67731 67731 67731 67731 67731 67731	99907444 99997445 99997445 99997445 99997445 99997445 99997445 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997444	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643255 E0.00964325	67755 113680 159693 67731	99997443.75 99997443.25 99997444.5 99997445.75	€0.009645354 €0.016183071 €0.022733314 €0.009641938	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 (nacabifichisecheebal 12.date-dea 3050/01/d4496-de 11de 14a 76-0690596/02/5347.0 1 2 0x8025/250-de2 1980/259805 2071 3e 138e5726/99803348c/7 3dzbee\$304986/09804-de4 1 2 0x6025/250-de2 1980/259805/7707456-de1 1970/486-de1 1970/4866-de1	67533 67533 67533 67533 67553 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 67731 67731 67731 67731 67731 67731 67768 67688	99907-444 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-444 99997-444 99997-444 99997-446 99997-446 99997-446 99997-446 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.00964335314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733316 E0.009643859 E0.009643859 E0.009643859 E0.009643859 E0.009643859 E0.009653851 E0.009653851 E0.009653851 E0.009653851	67755 113680 159693 67731	99997445 99997443.75 99997443.25	€0.009645352 €0.016183071 €0.022733314 €0.009641935	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-12 2023-02-11	1.2 (nach5fcbhochcebe8/12ahcAsa)CSB/01AH4804er1saHa7a-6b689059e825947.0 2 (nach5fcbhochcebe8/12ahcAsa)CSB/01AH4804er1saHa7a-6b689059e825947.0 2 (nach5fcbhochcebe8/12ahcAsa)CSB/01AH4804er1saHa7a-12abce85ba6e8684ca84e 1.2 (nach5fcbcccc2e)CSB/01abc895b6770746bc6h1fbdhochs6h6418925257469b1 c2c1bd 1.2 (nach5fcbccc2e)CSB/01abc895b6770746bc6h1fbdhochs6h6418925257469b1 c2c1bd 1.0 (nach5fcbc6b686656545496)C56265662622656664686828381181522417734 1.0 (nach43c5984656)C5626662622656664686828381181522341734 1.0 (nach43c59846566966662622626566646866368383181822341734 1.0 (nach43c59846666666666626226265666466464677660-151866374677666-1518627467746666666666666666666666666666666	67533 67533 67533 67533 67533 67755 67755 67755 113880 113880 113880 159693 159	99907-444 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-444 99997-444 99997-444 99997-445 99997-445 99997-445 99997-446 99997-446 99997-446 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.002733314 E0.022733314 E0.022733314 E0.022733314 E0.002643939 E0.009643939 E0.009643939 E0.009643939 E0.009643939 E0.009643939 E0.009643939 E0.009643939 E0.009658918 E0.009635818 E0.009635818 E0.009635818 E0.009635818 E0.009655817 E0.012779615	67755 113680 159693 67731	99997443.75 99997443.25 99997444.5 99997445.75	€0.009645354 €0.016183071 €0.022733314 €0.009641938	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 (nacabifichisecheebal 12.date-dea 3050/01/d4496-de 11de 14a 76-0690596/02/5347.0 1 2 0x8025/250-de2 1980/259805 2071 3e 138e5726/99803348c/7 3dzbee\$304986/09804-de4 1 2 0x6025/250-de2 1980/259805/7707456-de1 1970/486-de1 1970/4866-de1	67533 67533 67533 67533 67553 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 67731 67731 67731 67731 67731 67731 67768 67688	99907-444 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-444 99997-444 99997-444 99997-446 99997-446 99997-446 99997-446 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.00964335314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733316 E0.009643859 E0.009643859 E0.009643859 E0.009643859 E0.009643859 E0.009653851 E0.009653851 E0.009653851 E0.009653851	67755 113680 159693 67731	99997443.75 99997443.25 99997444.5 99997445.75	€0.009645354 €0.016183071 €0.022733314 €0.009641938	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 (avaab6cbbeccabe8d12dabc4sa305b004d44964e1da4ba7eb6e1d84960e80259470 2 0.0282026272dbc788039d013e1389572699693348c073dbc8503bda66964ca64e	67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 159693 159693 159693 67731 67731 67731 67731 67731 67731 67768 67688 67688	99097445 99997445 99997445 99997445 99997445 99997445 99997445 99997445 99997444 99997444 99997444 99997445 99997445 99997445 99997445 99997445 99997446 99997446 99997446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.009643355 E0.009645355 E0.009653551	67755 113680 159693 67731	99997443.75 99997443.25 99997444.5 99997445.75	€0.009645354 €0.016183071 €0.022733314 €0.009641938	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 0.xxxxb5fcbb6cxcbeb8d12x8bc46x30Sp0f04444964e11a44ba7eb669059e802594A7 0.2 0.xxxb5fcbb6cxcbeb8d12x8bc46x30Sp0f04444964e11a4bc46x30bc6e80ba8e80b46ca84e 1.2 0.xxxb2cccc2cc2c18e8028ac8557c70745cbcdfbf6c48bc41862x32ba8e80ba8e80b46ca84e 1.2 0.xxxb2cccc2cc2c18e8028ac8557c70745cbcdfbf6c48bc48e8052x47472bc 1.2 0.xxxb2cc2cc2c2c18e807c5c58557c70745cbcdfbf6c48bc48c80d3cc88bc48e8052x47472bc 1.0 xxxb2cc48c76c88e806bc58c36c22c2685cbc48e80bc82s38fc18c32c48fc32bc417a4 1.0 xxxb2cc2c2c2c2c2c2c2c2c2c2c2c2c2c2c2c2c2	67533 67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113680 113680 113680 113680 156963 159693 159693 159693 67731	90907444 99997445 99997445 99997445 99997445 99997445 99997445 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997444 99997446 99997446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613755 E0.009643555 E0.009643555 E0.009643555 E0.009643555 E0.016183071 E0.016183071 E0.016183071 E0.016183071 E0.022733314 E0.022733314 E0.022733314 E0.002641839 E0.009641839 E0.00	67755 113680 159693 67731 67688	99997443.75 99997443.25 99997444.5 99997445.75	€0.009645354 €0.016183071 €0.022733314 €0.009641938	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 (avab5fcbbechebel 12 daho46a 305b0fb444904e 11a41ba7 6b690596025947 0 2 0x282127 dcs798039801 3a138e57b299983348cc73d2bce83bba868044ca84e 1.2 (avab5fcbb7e29830360113a138e57b299983348cc73d2bce83bba86804ca84e 1.2 (avab6235cc62cc1805298a6557070745ebc8ftb6049804185235234961 ccz1 bd 1.2 (avae6233cc63554498016eb7b772e821187db820da06c883bba8680862241722e 1.1 (avar510ef67868986865 15869622928566610368b6283838181822417394 1.1 (avab43c59984c61114320ad7cdb53996337968013cb38485886787694444000 1.1 (avat21adf67868986865 1586962928269860140148538686838818767964444000 1.1 (avat21adf6758da4179464058694292856961405485686838818767964444000 1.1 (avat21adf678647864605869436942698694389486986838818767964444000 1.1 (avat21adf67864786460586943694369436943694374494864047769151816437764054694077694469407769406940777694469407769446940776944694077694694694077694946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776946940776949469407769469407769469407769469407769469407769469407769469407769469407769469407769469407769469407769469407769469407769469407769494077694694694077694694077694694077694694077694694077694694077694694077694694076946946946946946946946946946946946946946	67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113680 113680 113680 159693 159693 159693 159693 159693 159693 67731 67731 67731 67731 67788 67688 89772 89772	99907444 99997445 99997445 99997445 99997445 99997445 99997445 99997446 99997444 99997444 99997444 99997444 99997446 99997446 99997446 99997446 99997446 99997446 99997446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643555 E0.009643555 E0.009645355 E0.00964555 E0.00964555 E0.00964555 E0.00964555 E0.00964555 E0.00964555 E0.00964555 E0.0096555 E0.0096555 E0.0096555 E0.00	67755 113680 159693 67731 67688	99997445.75 99997443.25 99997444.5 99997444.5	€0.009645352 €0.016183071 €0.022733314 €0.009641933 €0.009635816	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-11 2023-02-11	1.2 (avab6fcbhocheched 12.dabc46a 305b0fb448624e 11448a7e 2068005960255847 0 2 0x262252262767679803980113e138e57b2999803348c732dbbe8504868064c6a64e 1 2 0x460255cc622*18802586a557707458cbdft1b0fb4860418125235249615c2fb1   2 10x862053c565354469016a7b7726e211873db820db06885b498868722477256   1 0x871048768869865615864962926285686104586b68638381185224177364   1 0x862053c565354469016a7b75726e211873db820db068853858648886722477256   1 0x872048768869865615864968242628569610458586386383818522417364   1 0x864325598465101164320ad7c105303695379868181035483887677864444005   1 0x87204865558425324813033386136058379868181035483887677864444005   2 0x80610303834648648686365042622525067868465235097835438462750652   2 0x8061030383464686486863650426025250678684656235097835438462750653   2 0x806103038346646864868636504262252506786846562350978783438482750653   2 0x806103038346646548636565042625250678646565736783674865484655444086607538654654466655654466655654665466656546665654666656564666656564666666	67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113880 113880 113880 113880 113880 159693 159693 159693 159693 159693 159693 67731 67731 67731 67731 67731 67731 67731 87788 877688 87688 89772 89772 89772 21832 21832	99907-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.009643355 E0.009643355 E0.009643355 E0.016183071 E0.016183071 E0.016183071 E0.016183071 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.022733316 E0.009635818 E0.009644818 E0.00	67755 113680 159693 67731 67688	99997445.75 99997443.25 99997444.5 99997444.5	€0.009645352 €0.016183071 €0.022733314 €0.009641933 €0.009635816	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-11 2023-02-11	1.2 (avab5fcbbechebed12dabc4sa305b0fd444964e1da4ba7e1da4ba7eb689596e8259477 d 2 0x282ft27dc679803980113e138e57b2999e33348cc73d2bce83ba8e6804ca84e 1.2 (avab5fcbb7e298263e8557670745eb6d1fb60fd4964148252452496b1c2b1d 2 (avae26253cc9554459616e7b7b72e821187deb6d1fb60fd4964118252357496b1c2b1d 2 (avae26253cc9554459616e7b772e821187deb6d1fb60fd4964118252357496b1c2b1d 2 (avae26253cc9554459616e7b772e821187deb6d196496418925257496b1c2b1d 2 (avae26253ce9554459616e7b772e821187deb6d1964968638381818222417734 1 (avae26253ce9546964696469646269262965966196459663683831818222417344 1 (avae26253ce9546964964696469649629262966961964966666838381816322463740796 1 (av7bce4863fba42652348130633e14306028683339238010668446062c4220 2 (av3695478fba486965348130633e143060228683339238010668446062c4220 2 (av3695478fba486965348130633e14306022868333923801067884380186279bc56 2 (av3695103083ce46018378ce3636482420520057e846486226360787838381862279bc56 2 (av3695103083ce4605481378ce366864646466862666964026696403668666666666666666666666666666666666	67533 67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113880 113880 113880 113880 159693 159693 159693 67731 67731 67731 67731 67731 67731 87772 88772 88772 88772 88772 88772 21832 21832	99907-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-444 99997-443 99997-445 99997-445 99997-445 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009643355 E0.002733314 E0.022733314 E0.022733314 E0.022733314 E0.022733314 E0.002641939 E0.009641939 E0.009635818	67755 113680 159693 67731 67688 89772	99997443.75 99997443.25 99997444.5 99997444.8 99997444.8	€0.00645352 €0.01618307: €0.022733314 €0.009641935 €0.009635818 €0.012779612	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-11 2023-02-11	1.2 (avab5fcbbecheckbed12dabc46a305b0fb44469c4e1da46a7eb69059682559470) 2 (avab5fcbbecheckbed12dabc46a305b0fb44469c4e1da46a7eb69059682559470) 2 (avab5fcbbecheckbed13dabc46a36a6b7b2996893348cc73d2bbes3bda6d69d4ca64e1) 2 (avab6253cc62e18b02596a55770745ebc8ftb0fb486b0f18725352496) 2 (avab6253cc62e18b02596a55770745ebc8ftb0fb486b0f18725352496) 2 (avab6253cc655544968)16be7b7726e21187dbe2dba60a68285bbe4888622417724e1) 3 (avab643c59984c610116320ad7cdb53d9963796981d5b48838876769444400) 3 (avab643c59984c610116320ad7cdb53d99633796981d5b48838876769444400) 3 (avab643c59984c610116320ad7cdb53d99633796981d5b48838876769444400) 3 (avab643c59984c610116320ad7cdb53d99633796981d5b48838876769444400) 3 (avab643c59984c61946)46863654042025060768496440747491450446776e0c1518ac93740074007400740074007400740074007400740	67533 67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 159693 159693 159693 67731	99907445 99997445 99997445 99997445 99997445 99997445 99997445 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446 99997446	E0.009613752 E0.009613555 E0.009613555 E0.009613555 E0.009613555 E0.009613996 E0.0012779615 E0.012779615 E0.012779615 E0.0012779615 E0.0012779615 E0.0012779615 E0.0012779615 E0.0012779616 E0.001077924 E0.003107924 E0.003107924 E0.003107924 E0.003107924 E0.003107924 E0.003107924	67755 113680 159693 67731 67688 89772	99997445.75 99997443.25 99997444.5 99997444.5	€0.009645352 €0.016183071 €0.022733314 €0.009641933 €0.009635816	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-11 2023-02-12 2023-02-11	1.2 (avab5fcbbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcb	67533 67533 67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 159693 159693 67731 67731 67731 67731 67731 87738 8772 89772 89772 89772 89772 89772 89772 89772 21832 21832 21832 22056	90907444 99997445 99997445 99997445 99997445 99997445 99997445 99997445 99997446	E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.008138307 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.022733314 E0.022733314 E0.022733314 E0.002733314 E0.002843898 E0.008643898	67755 113680 159693 67731 67688 89772	99997443.75 99997443.25 99997444.5 99997444.8 99997444.8	€0.00645352 €0.01618307: €0.022733314 €0.009641935 €0.009635818 €0.012779612	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-11 2023-02-11	1.2 (avab5fcbhochecheb812/abbc46a305br04444964e1/ab46a7e1/ab4689696968259472) 2 (avab5fcbhochecheb812/ab46856770745eba3054607444964e1/ab4686216364664646464e1 2 (avab5fcbb678868655657469685770745eba51156048669149625464664646464e1 2 (avab62853656554498016e176776262118736bb8204060683549686696224747266 2 (avab62853656554498016e1767672662118736bb8204060683549648696224747264 3 (avab6285667868686856156696292629656961469865683881818522417394 4 (avab643659846561104520647646968537966811635483887677694444006 5 (avab6436598465610466468656962926296696146464776961518632246173946) 6 (avab6436598466696468663656462462626262626266664646464677666156646373460766666664666666666666666666666	67533 67533 67533 67533 67533 67533 67533 67755 67755 67765 67765 67765 113680 113680 113680 113680 159693 12721 2731 27731 2	99907445 99997445 99997445 99997445 99997445 99997445 99997445 99997446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613555 E0.009643555 E0.009655818 E0.00	67755 113680 159693 67731 67688 89772	99997443.75 99997443.25 99997444.5 99997444.8 99997444.8	€0.00645352 €0.01618307: €0.022733314 €0.009641935 €0.009635818 €0.012779612	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-11 2023-02-12 2023-02-11	1.2 (avab5fcbbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcbcb	67533 67533 67533 67533 67533 67533 67533 67533 67755 67755 67755 67755 67755 113680 113680 113680 113680 159693 159693 159693 159693 159693 67731 67731 67731 67731 67731 87738 8772 89772 89772 89772 89772 89772 89772 89772 21832 21832 21832 22056	90907444 99997445 99997445 99997445 99997445 99997445 99997445 99997445 99997446	E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.00813752 E0.008138307 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.01813071 E0.022733314 E0.022733314 E0.022733314 E0.002733314 E0.002843898 E0.008643898	67755 113680 159693 67731 67688 89772 21832	99997443.75 99997443.25 99997443.25 99997444.5 99997443.75	€0.009645352 €0.016183071 €0.022733314 €0.009641933 €0.009635818 €0.012779618 €0.003107924	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public kays. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for the storage of the key via blockchain (one line per authority)	0x653C7A81F4cC00A38cb882000cF5547124F918E8	61.41.55
2023-02-11 2023-02-11	1.2 (avab6fcbhochachachachachachachachachachachachachac	67533 67533 67533 67533 67533 67533 67535 67755 67755 67755 113680 113680 113680 113680 113680 159693 15969	99907-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-445 99997-446	E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.009613752 E0.0096137555 E0.0096137555 E0.009613755 E0.009613755 E0.009613755 E0.009613757 E0.016183071 E0.016183071 E0.016183071 E0.02733314 E0.022733314 E0.022733314 E0.022733314 E0.022733316 E0.009631891 E0.009641839 E0.009631851	67755 113680 159693 67731 67688 89772 21832	99997443.75 99997443.25 99997443.25 99997444.5 99997443.75	€0.00645352 €0.01618307: €0.022733314 €0.009641935 €0.009635818 €0.012779612	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public kays. 0.5 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach  Transactions for the storage of the key via blockchain (one line per authority)	0x6653C7A81F4cC09A38cb882690cF5547124F918EB	(1,43.55

Test date Op	type Transaction hash	GasUsed (unit)	SasPrice (wei) Final	cost €	Average gas	Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-12	-2 0xc41460ea58833a22e4fb1b0a49a9ae9745ceeed4dd9a4686f142695af9a23ece	67153	74887774	€0.007259524	67153	74811465.33	€0.00725212	7		
2023-02-12	-2 0xc69c73ae862af3600b6ff4a6bf21f7622b61d5cce47b90c0743284b81e03db24	67153	74761493	€0.007247283				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-12	-2 0xafc2a90a6f53711618158fdbc1afffea843060efbaa9127a5d1ea2718f3fec4a	67153	74785129	€0.007249574				(		
2023-02-12	-3 0x5d79853ec067fa55531a0f95ff39569f05e8806fae1db935daaf6137f4f615af	67153	75780703	€0.007346084	67153	75628248	€0.00733130	Transactions for storing public key readers (actors). One for each of the		
2023-02-12	<ul> <li>-3 0xdebbeb4bb52baaa4f307d3bf5133c7c521b9d449ac1178afa043c5126316188d</li> <li>-3 0xe3b434bae34c9618f70d184a4b4ccfb32f3da993ee285c585ecce723001d50d2</li> </ul>	67153 67153	75530445 75573596	€0.007321824 €0.007326007				users (manufacturer, supplier1, supplier2) main		
2023-02-12	-3 0x8304340a634c9618f70d184a404cct032f3da993e6285c585ecce723001d50d2 1.2 0x809ac9286307476bfe161728188054e8ef2a5842bc1c0187ed92ea9468754a01	67153	74756230	€0.007326007	67522	74649624.6	€0.00727738			
2023-02-12	1.2 0x23e9fc0cca28c6087909e9e182680cf32033560ead6b7786f2ccd1fd0a2b9509	67533	74839102	€0.007297859	07333	74043024.0	60.007277300			
2023-02-12	1.2 0x2098b315c0304c44cbe8de395f5dd5d81d3b2c507c171bab53e87e769459f19b	67533	74746947	€0.007286875				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-12	1.2 0x144bbf84b36c44b964385258e8183fc7c90e58c5b058f5131b89d1b157055a6b	67533	74466859	€0.007259570				IMAK I SIA approacti		
2023-02-12	1.2 0x5742091db77c498e5c06fd321c9c9f1856f01c8017810cdb942b994078cb61d8	67533	74438985	€0.007256853						
2023-02-12	0.1 0x960d9ba42ba6a58e05cd5a1b6e15ab2fd5b819ca3a67012523f6d49a2fcf8794	67755	74147205	€0.007252170	67755	74073314.25	€0.007244943	3		
2023-02-12	0.1 0x282c55ed6d3303bf099fa2da45401642f9ebc37a6e16e8568c2e54af8cf692c1	67755	74064722	€0.007244102				Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-12	0.1 0x388c737ee9844250c385fd112d60dda88ca4732bfbddc2817c16ca2820dd6b1c	67755	73994494	€0.007237234				authorities (each of them: one transaction per authority)		
2023-02-12	0.1 0xac67c79cd1941c49c7b1f761902b88eb48aab7184d72646bf38db00416bce185	67755	74086836	€0.007246265						
2023-02-12	0.2 0x511a48c00f9954205a24faec21ea1fb817f3252dc8676b75811d1959dc3f8f89 0.2 0x73790dd05e263f4ae0391db6403666625871b487c12763e570be2eb9d683a665	113680 113680	74389831 74280763	€0.012207577 €0.012189679	113680	74217268.5	€0.01217925	7		
2023-02-12	0.2 0x285a3c7f56482603a34c21bc94c9beeb1e8065860fcbce78508994ee9e033a37	113680	74157267	€0.012169679				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-12	0.2 0x7a0d132db81d4bb626dfe669645d97c8928485271128115d0eae4f683a2d5dfd	113680	74041213	€0.012150368						
2023-02-12	0.3 0x9da4062a53325cfadd01fb51a42f91a15bb6713a7d3b6a27e6d5921260d8cd41	159693	74047431	€0.017069771	159693	73921735	€0.01704079			
2023-02-12	0.3 0xe9d94b68da55e68e58ec749c8bfd029ccd491600eaf2039e9cf3efa6aecfabbe	159693	73969447	€0.017051794				Transactions for the storage of the elements. 0.3 action of the authorities		
2023-02-12	0.3 0x31dc7a1e1a09974c1be0304cbfeac437dea9ed7bf1727bbba7730d0435fe73b0	159693	73883721	€0.017032032				(each of them: one transaction per authority)		
2023-02-12	0.3 0xe941a779983884cd295fcc04b5c56c0f7e78a6ffdbecb39688b7fc001e12f96b	159693	73786341	€0.017009584						
2023-02-12	0.4 0xb5e0bd0b138ea4ada4617195f50e1e9fe154e44494694f46828ad0f1b5d19530	67731	73665815	€0.007202534	67731	73608513.25	€0.00719693	4		
2023-02-12	0.4 0x308cf72d5fd0a6b656f8a3af6259acdf7d310d54d8d50052de844b86bf6a2218	67731	73649941	€0.007200982				Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-12	0.4 0x52adff53b436be3d890f2df13b4e8193bb7cf19563d29e39641868df8452391f	67731	73571978	€0.007193359				authorities (each of them: one transaction per authority)		
2023-02-12	0.4 0xd2d287bc81a62ae8253f1151565cd052d48e6a53d1ee7c5b8594023293e9d729	67731 67688	73546319 73531407	€0.007190851 €0.007184828	67600	73542785	€0 00718594			
2023-02-12	0.5 0x1d8d1782f03f6cf12f5ae8133aa90ada92eceb7689726b033387ff0ad5245a0e	67688	73517228	€0.007183443	07000	13342103	60.007103940	Transactions for the storage of the public keys, 0.5 action of the		
2023-02-12	0.5 0xa643f0abdf783efff5d53d2eee59c2191bde0d881237715553ef324a06c39707	67688	73556537	€0.007187284				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-12	0.5 0xddac179f23cb747d3b7a5500e7c0e0bf8c69955fe8966d09a91708a5879b9736	67688	73565968	€0.007188205						
2023-02-12	2.4 0xb53ffc4bee7381d1a426ad18c895aef2f221ba5b88c4b0426c3f61d3725a9c9c	89772	73544433	€0.009530650	89772	73485682	€0.00952303	,		
2023-02-12	2.4 0xf4ef56084e26b3d05df83a6bb3c73c1301cfa58e718e4ac7ebbb06ecc6e19b62	89772	73516346	€0.009527011				Transactions for the storage of the IDES link Astion 2.4 of the MADTSIA		
2023-02-12	2.4 0x956bf886f7d0bf51142cccf74858b1ab4e05f6c5f05fa3c06beb3ce5713c26d6	89772	73472790	€0.009521366				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-12	2.4 0xc648b4f7a5c197f71efc0ea62cee44b399a1d92054cd3c8d1e6722520bef32c4	89772	73449894	€0.009518399						
2023-02-12	2.4 0x958f295e7ba5d455f65c5f494a139e490a3b99d6bb54f29e9a17b2f822eb2618	89772	73444947	€0.009517758	04000	70057505	C0 00004400			
2023-02-12	1.31 0x4b1f1d4235bce6d616e6c86d8840ce613a1d2c8feefc9cf992b1937b00674871 1.31 0x0fdfd8f88a07f7283d924d75cd87505569bc835d76cae4259b10e2355bebfc94	21832 21832	73390047 73356848	€0.002312930 €0.002311884	21832	73357525	€0.00231190			
2023-02-12	1.31 0xdd7aa43a3f74ec34c1521fc7b06beff31071ed704e6daa985db3f5535d6fa8b3	21832	73355656	€0.002311846				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-12	1.31 0xd8af00280c0d51c803528425d681cec6c370e7650a920f3c8598def30d2910c2	21832	73327549	€0.0023110961				· ·		
2023-02-12										
2023-02-12	1.32 0x29c9e2e3b9055ae3a08bd0a6896900f2c18d11a7fe340dc0917565f0e1069239	22056	73381258	€0.002336381	22056	73344871.75	€0.002335223	3		
2023-02-12	1.32 0x29c9e2e3b9055ae3a08bd0a6896900f2c18d11a7fe340dc0917565f0e1069239 1.32 0x4dd0e0f16ebfb9698cda6b19d8c71799f251782fa8f75dff279f47c727c591d8	22056 22056	73381258 73341107	€0.002336381 €0.002335103	22056	73344871.75	€0.002335223	Transactions for loss solves (one line ner authority)		
2023-02-12 2023-02-12	1.32 0x4dd0e0f16ebfb9698cda6b19d8c71799f251782fa8f75dff279f47c727c591d8 1.32 0x10d62319a17da0ce1c04c2786190aaca4618598f635d0ab42c586a54e8fbcc22	22056 22056	73341107 73337712	€0.002335103 €0.002334995	22056	73344871.75	€0.002335223	Transactions for key return (one line per authority)		
2023-02-12 2023-02-12 2023-02-12	1.32 0x4dd0e0f16ebfb9698cda6b19d8c71799f251782fa8f75dff279f47c727c591d8 1.32 0x10d62319a17da0ce1c04c2786190aaca4618598f635d0ab42c586a54e8fbcc22 1.32 0x060b6a6e5298efbc97d070c41304d8015508d119a33cba8c702297d9f5738f88	22056 22056 22056	73341107 73337712 73319410	€0.002335103 €0.002334995 €0.002334412						
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 0x4dd0e0f16ebfb9698cda6b19d8c71799f251782fa8f75dff279f47c727c551d8 1.32 0x10d62319a17da6ce1c04c2786190aaca4618598f8536da442c586a54e8bfcc22 1.32 0x060b6a6e5298ebc97d070c41304d8015508d119a33cba8c702297d9f5738f88 -1 0x12f3df22073fd38c627420e57daaf234c6950f0a64b085f3868c5699442494	22056 22056 22056 22056 1692477	73341107 73337712 73319410 2565457520	€0.002335103 €0.002334995 €0.002334412 €6.189402581			€0.002335223 € 4.7781434188224000000	Contract creation	0xf7dB53111f8EDE819795F8c1Efab/Ad23bb48C80	€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13 2023-02-13	1.32 0x4dd0e0f16ebtb9698cda6b19d8c71799l25178218875dfl279f47c727c591d8 1.32 0x10d62319a17da0ce1c14c42786190aaca4618599l635d0ab42c586a54e8tbcc23 1.32 0x060b6a96c598ebtc970070c4130d8015508d119a33cba8c702297d9ff5738f88 -1 0x125d322073d38c62742de57ddaaf234cc990f0a64b96568a65c59994242942 -1 0x881657e5f0e88271daa14a475ac9bc275b3021cd8250ec56a19a023c82722574	22056 22056 22056 1692477 1692477	73341107 73337712 73319410 2565457520 1395546407	€0.002335103 €0.002334995 €0.002334412 €6.189402581 €3.366884256	1692477	1980501964	€ 4.7781434188224000000	Contract creation Contract creation	0xf7dB53111f8EDE819795F8c1EfabfAd22bb48C80 0xD36628479ce8B4f5F51742076507B78CCFa276B2	€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 0x4dd0e0f16ebfb9698cda6b19d8c71799f251782fa8f75dff279f47c727c551d8 1.32 0x10d62319a17da6ce1c04c2786190aaca4618598f8536da442c586a54e8bfcc22 1.32 0x060b6a6e5298ebc97d070c41304d8015508d119a33cba8c702297d9f5738f88 -1 0x12f3df22073fd38c627420e57daaf234c6950f0a64b085f3868c5699442494	22056 22056 22056 22056 1692477	73341107 73337712 73319410 2565457520	€0.002335103 €0.002334995 €0.002334412 €6.189402581	1692477			Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13 2023-02-13 2023-02-13	1.32 0x4dd0e0f16ebfb8698cda6b19d8c71799f25178z/la8f75dff279f47c727c591d8 1.32 0x10d62319a17da0ce10d4c2786190aaca491859889530b42c586a54e8fbcc2 1.32 0x06050468c5298ebc6707007031304d801556960119a33ca6a6702297df573888 1 0x12b3d322073d538c627420e5704aac424c69600aa40e568a65c5964424242 1 0x881264462f102dc2859645ba144875ac682730301cd88250e556a19a023c82722574 2 0x882784462f102dc259645ba14865430dc85a2c703e6b6950302977aca348	22056 22056 22056 1692477 1692477 67153	73341107 73337712 73319410 2565457520 1395546407 2798252058	€0.002335103 €0.002334995 €0.002334412 €6.189402581 €3.366884256 €0.267863401	1692477	1980501964	€ 4.7781434188224000000	Contract creation Contract creation		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13 2023-02-13 2023-02-13 2023-02-13	1.32 0x4dd0e0f16ebtb9698cda6b19d8c71799f2S1782la8f75dff279f47c727c591d8 1.32 0x10662319a17da0ca104c2786190aaca4618599f635d0ab42c586a54a6tbc22 232 0x66050a68c526ebetbc970707033404801556a8119a33cbae8702297df6753888 -1 0x1273d3122073d38c627420e57ddaaf234cc990f0a64b965fa86c5b994242942 -1 0x861657e5f0e86271daa14a475ac9bc27563021cd8250ec56a19a023c82722574 -2 0x862584442f102dc25964b9ba1486c430dde83ac703e965b93030e7f7aca348 -2 0x862587e2ba86555238b6272a2c554aa666b68b5c686ab54430bddc6ef056	22056 22056 22056 22056 1692477 1692477 67153 67153	73341107 73337712 73319410 2565457520 1395546407 2798252058 2766341772	€0.002335103 €0.002334995 €0.002334412 €6.189402581 €3.366884256 €0.267863401 €0.264808781	1692477 67153	1980501964	€ 4.7781434188224000000	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13	1.32 Oxtode2019 feebr06980ca8h1948c71790E5178288F7548E7278747-727c9148 1.32 Oxtode2319417da0cer1c44c2786190aca46185998535d0a442c568a54e8hcc22 1.32 Oxtode2319417da0cer1c44c2786190aca46185998535d0a442c568a54e8hcc22 1.32 Oxtode30ca6c3298ehcc17070c1430469155086119a33ca6a57022797d9f739888 1.0 Oxt23cd322073d338c627420e57ddaa4234cce90f0ae40e96588656694243942 1.0 Oxt861676766086271daa1447566982775daa42734cce90f0ae40e965896569694243942 2.0 Oxt86128644211024c25996490ba1488c4590dae53ac770ae968996330e777aaca488 2.0 Oxt86128644211024c25996490ba1488c4590dae53ac770ae968996330e777aaca488 2.0 Oxt861286446968965693405942255544486965866586654863046569666 2.0 Oxt86128656469696964696469654696449646469666 3.0 Oxt86128656496969646964696696464969646496966964696696	22056 22056 22056 1692477 1692477 67153 67153 67153 67153	73341107 73337712 73319410 2566457520 1395546407 2798252058 2766341772 4711525947 1686061917 2189935699	€0.002335103 €0.00233495 €0.002334412 €6.189402581 €3.366884256 €0.267863401 €0.264800781 €0.451012039 €0.161398713 €0.209632161	1692477 67153	1980501964 3425373259	€ 4.7781434188224000000 €0.327894740	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13	1.32 0x4dd0e0f16ebfb8698cdaeb19d8c71799f251782f88f75dff279f47c727c591d8 1.32 0x10d62319a17da0ca1044c2786190aaac4818598f855dba42c5868a54e8fbcc22 1.32 0x06005468c5298ebc507070070430448015506914333dba6470259f6753888 -1 0x1252d3f22073d538c627420e57ddaaf234cc99001ae49695f8865c5994424942 -1 0x68167676088627f4daaf2475c6862757803021cd85260e5691903032642252574 -2 0x682f844c2102cd25964b5ba1488c4530dae58ac703e96b5993030e777aca348 -2 0x6bc298f2caba88f55238f927d2c5553aa66b5685c5966b69544630bdc5ef056 -3 0xc61058566666096995bc46e9f05287450705707645467868364f68b55 -3 0xc61d332c13341edf20582d1d853ec0205f414ea143a159b63656866b6995030677 -3 0x755778d5c89896784342665095544ea139964823191bf84887a6b568566969 -3 0x664332c13341edf20582d1d853ec0205f414ea1463a15790bc38f6s9510284b77 -3 0x755778d5c8989678456565655521edf791566229ff6cff660725f56562290	22056 22056 22056 22056 1692477 67153 67153 67153 67153 67153 67153	73341107 73337712 73319410 2565457520 1395546407 2798252058 2766341772 4711525947 1886061917 2189935699 2035618436	© .002335103 © .002334995 © .002334995 © .002334412 © .189402581 © .36688425 © .267863401 © .264808781 © .0.161398713 © .0.209632161 © .194860101	1692477 67153 67153	1980501964 3425373259 1970538684	€ 4.7781434188224000000 €0.32789474 €0.18863032	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		€1,425,48
2023-02-12 2023-02-12 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13 2023-02-13	1.32 Oxtdd:0c0ff leath0698cd:a8h19d8c71790E51782b87578t7272f61948  1.32 Oxtdd:0c2319a17da0cet.odc2786190aaca4618598635d0ab42c586a54e8bbcc22  1.32 Oxtd062319a17da0cet.odc2786190aaca4618598635d0ab42c586a54e8bbcc22  1.32 Oxtd060ba6e328debbcc97007bc4130d409155686119a33caba6702297d9f673888  1.0 0xt223d3122073d338c027420b67ddaaf224ce9900aa496958886556994242942  1.0 0x881637669682671daa144275e80622753030162856566681940352632222574  2.0 0x86284442102dc25996495ba1488645900de85a2703e968b998330e77faca348  2.0 0x861298744082869582398392742525434a866886586568686444300dc6e96056  2.0 0xc1058565dcab6d0908bc04e99f02281788030a21097146446788658a34f688b5-3  3.0 0xc60432c1tb3816d0286286169586202566411eat162845786858a34f68b5-3  3.0 0xc60432c1tb3816d0286286169586202566411eat162845786858636496363636025646363636025046665636025046665636025046666563602656666666666666666666666666666	22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67153 6753	73341107 73337712 73319410 2565457520 1395546407 2798252058 2766341772 4711525947 1686061917 218935699 2035618436 4692324330	€0.002335103 €0.002334912 €6.189402581 €3.366884256 €0.2678633401 €0.264808781 €0.451012039 €0.161398713 €0.299632161 €0.194860101 €0.451715709	1692477 67153 67153	1980501964 3425373259	€ 4.7781434188224000000 €0.327894740	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the		€1,425.48
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2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxto40c00f16ebb0e80cda8h19d8c71790C51782b887F5d81724N47-272-f50148 1.32 Oxt060c319s171da0ceric04c2786190acc48618598653d0ab42c568c34ebbc.22 1.32 Oxt060c36e5239ebbc037070t041304d80155068119a33caba8/702297d9f873888 1.0 0xt122b3022073d138e627420e57ddsad224cc960f0a840e56886656994242942 1.0 0x861675e760e8271dsa148475e08227630s10462565e6581990253282722574 2 0xe202844427102dc259640bba1486c450d685ac703e6968993309c77aca348 2 0x6bc238f4427102dc259640bba1486c450d685ac703e6968993309c77aca348 2 0x6bc238f4427102dc259640bba1486c450d685ac703e6968993309c77aca348 2 0x6bc238f4467102dc259640bba1486c450d685ac703e6968993309c77aca348 2 0x6bc238f44687102dc2596496bba1486c450d685ac703e6968993309c77aca348 3 0x6bc373e686986968436c45056464649674960b646966856866448030645e6966 3 0xcbd332c1b3814dc0262841d585ee202f6414ea1483af5790bcd86e8910284577 3 0x7c6773e6496846464999696405095464149647219164466768658966003 3 0x6be65af8bbc381303306c586465521049196e2298f6c5f6007566562529 2 0xbb650626496464646999664665054646406464644464646464744496662da 2 0xdd83365c56555657073650571bc2966644250ce58042464564964644496662da 2 0xdd83365c5655654705956707860564659640464646464646464646464646446464	22056 22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 67533 167537	73341107 73337712 73319410 73337712 73319410 2566457520 1395546407 2798252058 2765341772 4711525947 1686061917 2189035699 2035618436 4820916882 4557688445 8725947271 8943830625 8725947271 8943830625 8736344951 8380178617	0.00235103 0.002334912 66.189402581 62.38884256 0.027863401 0.027863401 0.045012039 0.161398713 0.02095270 0.045017509 0.04501	1692477 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.81111816:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the storage of the hashed elements. 0.2 action of the		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Ox4dd0e0f16ebfb9698cdaeb19d8c71799f251782f88f75df27947c727c591d8 1.32 Ox10062319a17dabce10d4c2786190aaca49185989f35d5ab42c5686a54e8fbcc22 1.32 Ox006054695286eb6c970700703104048015506913433cdaeb270287g40f5738f88 1.0 xi2123d3f22073d538c267420e57ddaaf224ce990f0aa4b965f8865c5994242942 1.0 xi2123d3f22073d538c267420e57ddaaf224ce990f0aa4b965f8865c5994242942 2.0 xi2123d3f22073d538c267420e57ddaaf224ce990f0aa4b965f8865c5994242942 2.0 xi2123d3f22073d538c2673d5a47ac68257daaf24ce990f0aa4b965f8865c5994242942 2.0 xi2123d3f26668627d16aa4b47ac682526f3a5703e9b8993030e777aca348 2.0 xi2123d3f26668257daaf4a47ac66825665a5067069b8903030e777aca348 2.0 xi2123d3f26668696f98b2646869fb2621783003267076b6858696903300e777aca348 3.0 xi2123d3f26668696f98b2646206596642469100714046467868364668b565660368457 3.0 xi2123d3f26683686f83645609569646430964669656666ab56586666658566666666666666666666	22056 22056 22058 1692477 16922477 67153 67153 67153 67153 67153 67153 67533 67533 67533 67533 67553 1755 67755 67755 67755 113680 113680	73341107 73337712 73319410 2565457520 1395546407 2798252058 2706341772 4711525947 1688061917 2189035609 2035616436 469223430 469223430 4692324330 4692324330 469247211 8943830025 8736344951 8390178617 12291028824 12674416200 24151147520 24151147520 24151417520	0.002335103 0.002334912 6.189402881 6.189402881 6.289803401 6.264808781 6.045102303 6.161398713 6.045102305 6.045102505 6.045102505 6.045102505 6.045102505 6.045102505 6.045102505 6.0451025 6.0	1692477 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.81111816:	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTISIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleocialis 1986;c17 9705.5 1782;b87754877-727-561 98. 1.32 Oxtodiocoff 1986;c17 17400cst 104-27861 90aaca461 8599815340ba42:5586a54e8lbcc22 1.32 Oxtodiocofea6239e8lbcc970700cst 30340e80 1550681 19833-dash2702277091673988 1.0 0xt2123d3122073d3382627420e870dash234cs69010a846965886656994242942 1.0 0x861957696088271 dash 14475669827536031 0x68550e658969242942 2 0xe6278444271024c25996490ba 148864590dae83ac703e968998330e777aaca48 2 0x661298140988695523913927545786892753905108550688638436903528222774 2 0xe6278444271024c25996490ba 148864590dae83ac703e968999330e777aaca48 2 0x66129814088695523913927542554848669865686866448300dcdefin056 2 0xce1058566de68de0998bbc4ee998b281783803a210871044c876a858a3fte8bc5 3 0xc60432211381640520282110853ea0202766914 1ee1483157990bc68698510284577 3 0xc765773640468486499988645005964134094247191048428754698596203 3 0xc66654698bbc381 0x3300c58640559141390424244646494640944744968622as 2 0xc465305bc16596370359671bc2896c44c250ceb8242546589911038c42bc03531 2 0xc86534649697263869640686405968643767896933488888779494977396485305 1.2 0xc86524649002cas869406466459059697896431859647824387104864586547649002cas869406466596789643747869653165964705666656106666641066666410666664106666641066666410666664106666641066666666	22056 22056 22056 22056 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 173680 113680 113680 113680	7334107 73337712 73319410 73337712 73319410 2565457520 1395546407 2798252058 2765341772 4711525947 4711525947 478935699 2035618436 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820921882042 27456040219 28402822029 27456040219 2840282209	en.002334102 en.00233402 en.00233402 en.189402881 en.189402881 en.287863401 en.2878	1692477 67153 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116165 € 1.016104874 € 4.424306534	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the storage of the hashed elements. 0.2 action of the		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Ox4dx0e0f16ebbe986cda8b10d8c71799f251782b88767s4f27272c91188 1.32 Ox10dc2319a17da0cer (04c278619a0c491589686550da842c58ea54e8bcc22 1.32 Ox00b05486c5289ebcb0767070c1304de901550680119a33caba87022579d8f573888 1.0 xi2123d3122073d538c627420e570da81243ce990f0a840e5858865c5994424924 1.0 xi2123d3122073d538c627420e570da81243ce990f0a840e5858865c5994242942 1.0 xi2123d3122073d538c627420e570da81243ce990f0a840e5858865c5994242942 2.0 xi2123d3122073d538c627420e570da81243ce990f0a840e5858865c5994242942 2.0 xi2123d312471024c2596490ba1486c4430de683ac70xe96bb990330e777aca348 2.0 xi2123d312d312d58645636562554a666b80b54686ab544430bddc5e6955 2.0 xia105856dceb6d0996b0c4ee9f8b2251703003a2106710d4c677a685b838f6ebc5 2.0 xia105856dceb6d0996b0c4ee9f8b2251703003a2106710d4c677a685b838f6ebc5 2.0 xia105856dceb6d0996b0c4ee9f8b2251703003a2106710d4c677a685b838f6ebc5 2.0 xia105856dceb6d0996b0c4ee9f8b2251703603a2106710d4c677a685b838f6ebc5 2.0 xia105856dceb6d0996b0c4ee9f8b2251703603a2106710d4c677a685b838f6ebc5 2.0 xia105867a38f6b0c362048646464966b0c4ee466b0c46660656566 2.0 xia105867a38f6b0c3620486466496666666666666666666666666666666	22056 22056 22056 1692477 67153 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67555 67755 67755 113680 113680 113680	73341107 73337712 73319410 2565457520 1395546407 2798252058 2766341772 4711625947 1680601917 2189035699 2035616436 4802204330 4820916882 4557688445 8725947271 8943830025 8725947271 8943830025 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520	© 0.02334103 © 0.02334412 © 1.89402881 © 3.0868450 © 2.27683401 © 4.61012039 © 1.61398713 © 2.06932161 © 1.61398713 © 2.06932161 © 1.6480767 © 0.46704520 © 0.86096221 © 1.886096221 © 1	1692477 67153 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.81111816:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleocialis 1986;c17 9705.5 1782;b87754877-727-561 98. 1.32 Oxtodiocoff 1986;c17 17400cst 104-27861 90aaca461 8599815340ba42:5586a54e8lbcc22 1.32 Oxtodiocofea6239e8lbcc970700cst 30340e80 1550681 19833-dash2702277091673988 1.0 0xt2123d3122073d3382627420e870dash234cs69010a846965886656994242942 1.0 0x861957696088271 dash 14475669827536031 0x68550e658969242942 2 0xe6278444271024c25996490ba 148864590dae83ac703e968998330e777aaca48 2 0x661298140988695523913927545786892753905108550688638436903528222774 2 0xe6278444271024c25996490ba 148864590dae83ac703e968999330e777aaca48 2 0x66129814088695523913927542554848669865686866448300dcdefin056 2 0xce1058566de68de0998bbc4ee998b281783803a210871044c876a858a3fte8bc5 3 0xc60432211381640520282110853ea0202766914 1ee1483157990bc68698510284577 3 0xc765773640468486499988645005964134094247191048428754698596203 3 0xc66654698bbc381 0x3300c58640559141390424244646494640944744968622as 2 0xc465305bc16596370359671bc2896c44c250ceb8242546589911038c42bc03531 2 0xc86534649697263869640686405968643767896933488888779494977396485305 1.2 0xc86524649002cas869406466459059697896431859647824387104864586547649002cas869406466596789643747869653165964705666656106666641066666410666664106666641066666410666664106666641066666666	22056 22056 22056 1692477 67153 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 167535 16755 16775 16775 16775 16775 16775 16775 16775 16775 16775 1677	7334107 73337712 73319410 73337712 73319410 2565457520 1395546407 2798252058 2765341772 4711525947 4711525947 478935699 2035618436 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820921882042 27456040219 28402822029 27456040219 2840282209	en.002334102 en.00233402 en.00233402 en.189402881 en.189402881 en.287863401 en.2878	1692477 67153 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116165 € 1.016104874 € 4.424306534	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the storage of the hashed elements. 0.2 action of the		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleocialis 1048c71790C51782b87754877572760148 1.32 Oxtodiocoff telephoeleocialis 1048c71790C51782b87548775474772750148 1.32 Oxtodiocoff telephoeleocialis 1046c786190acac4618598063540b442c568a54e880bcc22 1.32 Oxtodiocoffeedec20deeleoci797070c14304e801565068114a333-caba67022770f1673888 1.0 Oxtodiocoffeedec20deeleoci797070c14304e801565068114a335-caba67022770f16738888 1.0 Oxtodiocoffeedec20deeleoci746a644754650627546506206855666669642424942 2.0 Oxtodiocoffeedec27146a1447566962754636014655666668969642424942 2.0 Oxtodiocoffeedec20deeleoci746647647668584764696963506967774cac448 2.0 Oxtodiocoffeedec20deeleoci74669649696496962697069696969690306977746649696969696969696969696969696969	22056 22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 17585 17386 17386 17386 173880 113880 159893	7334107 73337712 73337712 73337712 73337712 73319410 25656407520 1395546407 2798252058 2765341772 4711525947 1686061917 2199335609 2035618435 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 48209188445 8735644951 8390178617 12291028824 12674416290 247456040219 247456040219 247456040219 24725808264	60.00235103 60.00233412 66.189402835 60.287683412 60.287683412 60.287683417 60.287683417 60.287683417 60.287683417 60.1986017 60.1986017 60.4876917 60.8698514 60.869	1692477 67153 67153 67153 67533	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116165 € 1.016104874 € 4.424306534	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the elements. 0.3 action of the authorities		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxto602319s17da0ceric04c2786190acca6918598675d02452568c364e8bcc22 1.32 Oxto602319s17da0ceric04c2786190acca6818598653d0a442c568c364e8bcc22 1.32 Oxto602319s17da0ceric04c2786190acca6818598653d0a442c568c364e8bcc22 1.32 Oxto6005ae6c298ebcc97700ct4304de8015c0568119s33cabs6702297d9f8739888 1.0 Oxt23d3922073d388c627420e57ddas4234cc96000ae4b696588c56694243942 1.0 Oxt23d3922073d38e8c627420e57ddas4234cc96000ae4b696588c56694243942 2.0 Oxt22d3422073d38e8c627420e57ddas4234cc96000ae4b696588c5646390328222574 2.0 Oxt22d3422073d38e8c627420e457das42275des69608e963930e777aca348 2.0 Oxt22d34427102dc2596496ba1486c4590de85ac703e6969963930e777aca348 2.0 Oxt22d34427102dc2596496ba1486c459658658c54483040dc5ef0566 2.0 Oxt22d344646469696464649696462554644646466467469658666464804066569666 2.0 Oxt22d34646469696466696964669696469646964696696	22056 22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167633 169693 159693 159693 159693	73341107 73337712 73319410 73337712 73319410 2565457520 1395546407 2788252058 2765341772 4711525947 1686061917 2189035699 2035618436 4820916882 4557688445 8725947271 8943830625 8725947271 8943830625 8736344951 8380178617 12291028824 12874416200 24131147520 24131147520 227456040219 28402828209 2292294566536	60.002334102 60.002334912 60.102334912 60.109402881 62.3088942881 60.267863401 60.26406781 60.451012039 60.161398713 60.2095214 61.914980101 60.451157090 60.464074020 60.860995214 60.464074020 60.860995214 60.464074020 60.860995214 61.241438165 63.910417861 64.444211957 64.602837893 64.73495679 65.359817302 66.359817302 66.359817302 66.445800111 62.157004432	1692477 67153 67153 67533 67755 113680	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116165 € 1.016104874 € 4.424306534	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the hashed elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-13	1.32 Ox4dx0e0f16ebbe086ca8b1048ca17799f251782b887f54f27727cf9148 1.32 Ox106052319a17da0cer (104c27661904671789f251782b887f54f27277cf9148 1.32 Ox06056486c62896ebc037070cf13040691159636530ba42c568ea54e8bcc22 1.32 Ox06056486c62896ebc037070cf13040691159606119a33caba8702379f05738f88 1.0 xs1223d3f22073f3580c627420e570dasf224ce990f0a84b965f886c56994242942 1.0 xs8123d3f22073f3580c627420e570dasf224ce990f0a84b965f886c56994242942 2.0 xs82284442f1024c259649bba1486c4430ds683ac70xe96bb903330c977aca348 2.0 xs8bc28944ce9102ebc89fb0ba1486c44303dadc58ac70xe96bb903330c977aca348 2.0 xs8bc389464f1024c25964bb0ba1486c44303ac10xe96bb903330c977aca348 2.0 xs8bc389464f1024c25964bb0ba1486c44303ac10xe96bb903330c977aca348 2.0 xs8bc389464f1024c25964b0ba1486c44303ac10xe96bb90330c977aca348 2.0 xs8bc38946b0568b056586b056b056b056b056b056b056b056b056b056b05	22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 167535 13880 113880 113880 113880 113880 113880 113880 113880 113880 113880 113880 1159693 159693 159693	73341107 73337712 73337712 73319410 2565457520 1395546407 2798252058 2766341772 4711525947 1686061917 2189035699 2035618436 469224330 469224330 469224330 469224330 2035618436 469224330 24557688445 182201208824 1527688445 112291028824 12291028824 122745604219 28402828209 24213147520 24213830546 27352083844 256505964536 22340990388	© 0.02334103 © 0.02334412 © 1.89402881 © 2.3688426 © 0.287683401 © 0.287683401 © 0.451012039 © 1.61398713 © 0.09632161 © 1.9480101 © 0.46409422 © 0.438754724 © 0.80096214 © 0.80096214	1692477 67153 67153 67533 67755 113680	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544	€ 4.77814341882240000000 € 0.327894744 € 0.188630322 € 0.611116163 € 1.016104876 € 4.424306533 € 5.717775883	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleocialis 1986;c17 1970;51 782;b87754877-727-561 948 1.32 Oxtodiocoff 197400cci 104-27861 90aaca461 85998153400a42-5569a54e80bcc22 1.32 Oxtodiocoffices 2004 1990;014-304-304-305400a42-5569a54e80bcc22 1.32 Oxtodiocoffices 2004 1990;014-304-304-3051556961 19833-30ab8/702297-30187-30888 1.1 0x1223d3722073d3862627420e576daad274cce90f0ae40e568865658964242942 1.2 0x861267466088271 data 1447566825753001 198350e6589658964242942 2. 0x8612644671024c2599640bba 148864530d6e58ac703e968969330e777aca348 2. 0x8612644671024c2599640bba 148864530d6e58ac703e968969330e777aca348 2. 0x8612644671024c2599640bba 148864530d6e58ac703e968969330e777aca348 2. 0x861264464689658234896274255448466986568664448300465e1058657 3. 0xx66736486896583340e2762554484696865668665448300465e1058657 3. 0xx667364689686968364656205646464969621 198469276466586566664066665666 3. 0xx6643261x38164602622616585ae202766414 eat 183157990bcd6e58610284577 3. 0xx667364698646846999864560564613406467461666566666666666666666666666666666	22056 22068 22068 1692477 67153 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167533 167533 17555 133680 113680 113680 113680 1159693 159693 159693 159693	7334107 73337712 73319410 73337712 73319410 2565457520 1395546407 2798252058 2765341772 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4857688445 8725947271 8943830625 8736344951 8380178617 2291028824 12674415200 27456040219 224402822029 224456040219 23402828344 25545232228 23545232228 23545232228	E0.002334102 E0.00233402 E0.00233402 E0.189402825 E0.267863401 E0.2678	1692477 67153 67153 67533 67755 113680	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544	€ 4.77814341882240000000 € 0.327894744 € 0.188630322 € 0.611116163 € 1.016104876 € 4.424306533 € 5.717775883	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority) Transactions for the storage of the hashed elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 OxtdoGoOff beach6980edab11980c71790C51782AB87F54IIZ794IA7-727c91188 1.32 OxtdoGo2319817da0cer (074c2786190acc480185986530dab42c588a548edbcc22 1.32 OxtdoBo0da6c5289ethc057070c14304d801550681530dab42c588a54edbcc22 1.32 OxtdoBo0da6c5289ethc057070c14304d8015506801198333caba87022797d9f573888 1.0 Oxt20233220736138806274209670das82124ce990f0ad406958886565994242942 1.0 Oxt8015765960886271das144578ce962753002168550ce5819905282272574 2 Oxt8023844271024c2599640ba1486c4430da6c83ac70ae6b6996330ce777aca348 2 Oxt8015896dac6d60999bc0c4ee9f8bc241738003ac1007104dc6778ad5ba37686bc595677aca348 2 Oxt8015896dac6d60999bc0c4ee9f8bc241738003ac1007104dc6778ad5ba38168bc5 2 Oxt8015896dac6d60999bc0c4ee9f8bc241738003ac1007104dc6778ad5ba38168bc5 3 Oxt604332c13811dcd1028281d953ee2020f5df41ea163a157900bc8d689610284b77 3 Oxt765778040846649649986485650564641911906229f6c5df600525df5dc9209 3 Oxt86058056986986f8a426c9054ee413904942719164868726656596903 3 Oxt86058056986986f8a42660965054641390494274910646695656660565660605696606069606066066606	22056 22056 22056 22056 1692477 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 17535 13680 113680 113680 113680 113680 159693 159693 159693 159693	73341107 73337712 73319410 2565457520 1395546407 2798252058 2766341772 4711525947 1680601917 2189035699 2035616436 4822015882 4557088445 8725947271 8943830625 8725947271 8943830625 8736344951 8380178617 12291028824 12674416230 2413147520	0.002335103 0.002334512 0.002334512 0.102334512 0.10234512 0.10234512 0.2026334112 0.2026334112 0.20263213 0.2026323 0.20263213 0.20263213 0.20263213 0.20263213 0.20263213 0.202633341 0.202633341 0.2026341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.2026341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20263341 0.20	1692477 67153 67153 67533 67555 113680 159693	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.61111616: €1.016104876 €4.424306532 €5.71777588:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleociale/1 osloc/1790C5 1782/b8/75/017/014/07/27/25/01 48 1.32 Oxtodiocoff telephoeleociale/1 osloc/1786/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27.132 1.32 Oxtodiocoffeedeciale/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27/100aca46/8 165986/35-doba4/25696/32/24/24/2 1.02 Oxtodiocoffeedeciale/100aca66/8 165986/35-doba4/25696/36/24/24/2 2 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/2 3 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/24/2 3 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/24/24/24/24/24/24/24/24/24/24/24/	22056 22056 22056 22056 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167531 13680 1136803 159693	73341107 73337712 73319410 73337712 73319410 2565647520 1395546407 2788252058 2765341772 4711525947 1686061917 2189335699 2035618436 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 482092 2745604219 2840282209 2745604219 2840282209 22459083844 525562593844 5255625932228 23459090388 27469125762 2340909388 27469125762 2390890388	60.00235/102 60.002334912 60.189402281 61.189402281 62.189402281 62.287683401 60.28498781 60.451012039 60.161388773 60.00525/61 60.194800101 60.451715709 60.464004920 60.48378472 60.48006205 60.48378472 60.48006205 60.483785767 60.800985214 61.24138165 62.4418211957 64.448211957 64.62637633 65.390807246 65.359817302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 66.2562127129 66.2562127129 66.2562127129 67.256	1692477 67153 67153 67533 67555 113680 159693	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544	€ 4.77814341882240000000 € 0.327894744 € 0.188630322 € 0.611116163 € 1.016104876 € 4.424306533 € 5.717775883	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxto4dx0e0f16ebcb6986ca8b1948cx1790Ex51782b8775dt274A7-727c9148 1.32 Oxt060e2319a17da0ceric104c2786190aaca4618598653dc0ab42c568a54e8bcc22 1.32 Oxt060e36e5289ebcb170700rd1304de0155068119a33caba8c702297d9f573988 1.0 0xt122b3022073dc38e527420e57ddaad224cc960f0a84b965f88e556994242942 1.0 0x861957e560e8271daa14s7a5ce92763ba27dcs960f0a84b965f88e556994242942 2 0xe212b3022073dc38e527420e57ddaad224cc960f0a84b965f88e556994242942 2 0xe212b342e2f102dc259694b9ba148e64530de83ac70ae96b989330e777aac348 2 0x6612844e2f102dc259694b9ba148e64530de83ac70ae96b989330e777aac348 2 0x661264547102dc259694b9ba148e64530de83ac70ae96b989330e777aac348 2 0x66105856dce6dc0f096b0c4ee9f8b2281783603a210671dd4c676a65ba3f8e6bc5 2 0xce105856dce6dc0f096b0c4ee9f8b2281783603a210671dd4c676a65ba3f8e6bc5 3 0xc60d332c1b381dcd02b282d1d585ee2028f64f1eaf16a315790bc6dde89610284b77 3 0xc7c677946046464e9998645605054614046472191b648e87b6685966003 3 0xc6e65a6f8bbc381d3330c6c586dc5521c40f196e229f6c5df600525d65dc25b2 2 0xc6b6056c9646464e999864640746b0654006640642444456496b06444966062da406464646464646464646464644446464646464	22056 22056 22056 22056 22056 1692477 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 17555 67755 113680 113680 113680 113680 1159693 159693 159693 159693 159693	73341107 73337712 73319410 73337712 73319410 2565457520 1395546407 2788252058 2766341772 4711525947 1686061917 2189035699 2035618436 4820916882 4557688445 4557688445 8725947271 8943830625 8738344951 8380178617 12291028824 12674416290 2413147520 2413147520 2413147520 221380546 27352083844 25650594356 232228 23922947566 23340690398 27469125762 30885116681 39415114259 402247773762	0.002335103 0.002334912 6.189402581 6.189402581 6.289808718 0.451012039 6.161398713 0.209532161 6.19398713 0.209532161 6.19398713 6.209532161 6.19398713 6.389081222 6.18737575 6.464020255 6.29808261 6.2448080713 6.38908122 6.25608722 6.256087732 6.256087732 6.256087732 6.256087732 6.258087732 6.258087742 6.258087743	1692477 67153 67153 67533 67555 113680 159693	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.61111616: €1.016104876 €4.424306532 €5.71777588:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxtodiocoff telephoeleociale/1 osloc/1790C5 1782/b8/75/017/014/07/27/25/01 48 1.32 Oxtodiocoff telephoeleociale/1 osloc/1786/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27.132 1.32 Oxtodiocoffeedeciale/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27/100aca46/8 165986/35-doba4/2568a54e8/bcc2/27/100aca46/8 165986/35-doba4/25696/32/24/24/2 1.02 Oxtodiocoffeedeciale/100aca66/8 165986/35-doba4/25696/36/24/24/2 2 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/2 3 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/24/2 3 Oxtodiocoffeedeciale/100aca66/8 165986/36/24/24/24/24/24/24/24/24/24/24/24/24/24/	22056 22056 22056 22056 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167531 13880 113880 113880 113880 159693 159693 159693 159693 159693 159693	73341107 73337712 73319410 73337712 73319410 2565647520 1395546407 2788252058 2765341772 4711525947 1686061917 2189335699 2035618436 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 482092 2745604219 2840282209 2745604219 2840282209 22459083844 525562593844 5255625932228 23459090388 27469125762 2340909388 27469125762 2390890388	60.00235/102 60.002334912 60.189402281 61.189402281 62.189402281 62.287683401 60.28498781 60.451012039 60.161388773 60.00525/61 60.194800101 60.451715709 60.464004920 60.48378472 60.48006205 60.48378472 60.48006205 60.483785767 60.800985214 61.24138165 62.4418211957 64.448211957 64.62637633 65.390807246 65.359817302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 65.2456987302 66.2562127129 66.2562127129 66.2562127129 67.256	1692477 67153 67153 67533 67555 113680 159693	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.61111616: €1.016104876 €4.424306532 €5.71777588:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Dx.40dx0e0f16eebb0e08ecda8h10d8cz1790ES1782E88F75d8E77847-727.691048 1.32 Dx.10dx0e2319a172doce104-22788190aeca48185998153doch42c5586a54e8b0cc22 1.32 Dx.60dx0e08e652898ebbc977070v13040e01550608119a33caba8c702297d9f873888 1.0 Dx.12dx3d222073dd38c027420e570das2124ce9900ae496598880558994242942 1.0 Dx.618167676086271das1448775es082753doc102550e565918902528722574 2 Dx.62dx2f84e2f102dx25996495ba1488e475es082753doc102550e565918902528722574 2 Dx.62dx2f84e2f102dx25996495ba1488e4890de85a703e9689980309e777aa348 2 Dx.61816286468986552838927242524534886986856586586454403064569056 2 Dx.610565867640e500f89b0c4e9f802d21783603a2210871046467786559a34feebbc-3 2 Dx.610565867640e500f89b0c4e9f802d21783603a2210871046467786559a34feebbc-3 3 Dx.62dx3d2612632646469898862628564614ee168642786559a34feebbc-3 3 Dx.62dx3d261263626262664646989862d2169646219196464867366559a34feebbc-3 3 Dx.62dx3d261263626262664646989864647466064627919642919646486936464696464649864646464646464646464646464	22056 22068 22068 22068 1692477 67153 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 67533 167533 17755 67755 67755 67755 67757 113680 113680 113680 113680 159693 159693 159693 159693 159693 159693 159693 159693	73341107 73337712 73337712 73337712 73319410 25656467520 1395546407 2798252058 2766341772 4711525947 1688061917 2189335699 2035618436 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 4820916882 482091882 4820922478617817829 2211880546 27352083844 26569594532 221980546 23349990388 27352083844 28592947566 23349990388 23949938844 28592947566 23349990388 23949938844 24989224091 24991880546 2394999388 24949822209 2491980546 2394999388 249499125782 23989911681	60.002334102 60.002334912 60.002334912 60.189402281 61.189402281 62.368684256 60.267863411 60.189402281 60.189402781 60.189407	1692477 67153 67153 67533 67755 113680 159693 67731	1980501964 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.77814341882240000000 €0.327894744 €0.188630322 €0.61111616: €1.016104876 €4.424306532 €5.71777588:	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 Oxto60c319ia17rda0ceri c04c2786190aaca46185996153d0a45c2568a54e80bcc22 1.32 Oxto60c3319ia17rda0ceri c04c2786190aaca46185996153d0a45c2568a54e80bcc22 1.32 Oxto60c96a6c230e8bcc3770c41304c80155068119a33caba67022573d19753988 1.0 ix1223d3122073d138c827420e87ddaa4234cc990f0aa469658a6c65694242942 1.0 ix281637660e8271daa14475c9625753d197636256c6581996236225272574 2 ixx82124436212073d138c8267420e87ddaa4234cc990f0aa4696588e65699424942 2 ixx821244421024cc2599640ba1486c4300de83ac703e968e996330e777aca484 2 ixx821244421024cc2599640ba1486c4300de83ac703e968e996330e777aca484 2 ixx821244421024cc2599640ba1486c4300de83ac703e968e996330e777aca484 2 ixx82124441024cc2599640ba1486e4360de83ac703e968e996330e777aca484 3 ixx82124456463646969656345696466666666666666666	22056 22068 22068 22068 1692477 67153 67153 67153 67153 67153 67533 67731 67731 67731 67731 67731 67688 67688 67688	73341107 73337712 73319410 73337712 73319410 2565457520 1395546407 2798252058 2765341772 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 4711525947 48592184330 4820916882 4857688445 8725947271 8943830625 8736344951 8380178617 4291028824 12674416200 24405282029 24405282029 24406247735283844 525650594536 23340990368 27469125762 30885116681 39415114259 42940254773762 47683224051 39415114259 47683224051 39415114259	60.002334102 60.00233402 60.00233402 60.189402825 60.287683401 60.2876	1692477 67153 67153 67533 67755 113680 159693 67731	1980501984 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116162 € 1.016104874 € 4.42430653 € 5.717775882 € 2.899139054	Contract creation  Contract creation  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities names 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		€1,425.48
2023-02-12 2023-02-12 2023-02-12 2023-02-13	1.32 OxtdoGo0ff bearbe080cdab11980c71790C51782AB87F54IIZ794IA7-727c59148 1.32 OxtdoG2319817da0cer (074c2786190aacA871859865350dab42c586a54e8hcc22 1.32 Ox50060de6c5280ethc07070070413040801550681198333cab8t7022797d9f573888 1.0 Ox510250372207361380c627420e570da812734cc990f0ad40955880c56994242942 1.0 Ox510250372207361380c627420e570da812734cc990f0ad40955880c56994242942 2.0 Ox50060827148141457560e5275300164550c65880c56994242942 2.0 Ox50060827148141457560e5275300164550c6581980593030c777aca348 2.0 Ox5006082744614457660627550da81270c690f08960330c9777aca348 2.0 Ox5006326138114cf02582416953e2020554416960b68bc56866b5444300dc5c69056 2.0 Ox50063261383114cf02582416953e20205641496146866b68bc56866b695300c9777aca348 3.0 Ox50063261383114cf02582416953e202056414961468341570b6868695300c9777ac3484 3.0 Ox5006326138314cf02582416953e202056414961468341570b6868695696300c98477 3.0 Ox5075706409464646490986465005964574600566096666666656566666666666666666666	22056 22056 22056 22056 1692477 1692477 67153 67153 67153 67153 67533 67533 67533 67533 67533 67533 167531 13680 113680 113680 113680 159693 159693 159693 159693 159693 159693 159693	73341107 73337712 73319410 73357712 73319410 2565457520 1395546407 2798252058 2766341772 4711525947 1680601917 2189035699 2035616436 480234330 4820916882 4557688445 8725947271 8943830625 8725947271 8943830625 8725947271 8943830625 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 24131147520 341	0.002335103 0.002334912 6.189402821 6.189402825 6.227863401 0.64808781 0.451012039 6.161398713 6.2096221 6.161398713 6.2096225 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.209625 6.	1692477 67153 67153 67533 67755 113680 159693 67731	1980501984 3425373259 1970538684 6348141511 10520492171 27302349124 25117714544 30027586768	€ 4.778143418822400000001 € 0.327894744 € 0.188630322 € 0.611116162 € 1.016104874 € 4.42430653 € 5.717775882 € 2.899139054	Contract creation Contract creation Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block  Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main  Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach  Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)  Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		€1,425.48

Test date O	p type Transaction hash	GasUsed (unit)	GasPrice (wei) Fina	al cost €	Average gas Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-13	2.4 0x18644d7647b24620eb2bcd4fff6462e677ac2f184f8ee6829dc4797f742e954f	89772	62763308233	€8.031706988					
2023-02-13	1.31 0x00c87cd75d351625f9ccf6dab8ccf22f396f76a1cfd3d6fd928ca50ca0d4688b	21848	55516561696	€1.729001526	21848 68022707918	€2.118491532			
2023-02-13	1.31 0x17dfa9f0b863f2615d510993d9f5c4e37abb1aca864f2a1cab655cf4cb2c1833	21848	60841282044	€1.894834015			Transactions for requesting the key via blockchain (one line per		
2023-02-13	1.31 0x29247b7d694a94be1405fb407103184a96fd7ffdbb13248428931afb3e15704c	21848	76705271749	€2.388900319			authority)		
2023-02-13	1.31 0x3d96ce9d17993f32b5cbd05fb455325c90637e880f09af5dd4f56ed68dc302d5 1.32 0xe4074eacab3212ec6616b0e388ce53001fe7e43d0d54eb0a3662bebbd55ead90	21848 22072	79027716182 54384338095	€2.461230266 €1.711105010	22072 64443615689	€2 027602019			
2023-02-13	1.32 0x5081afcc1a0e15ad2f976ce40d636b3d9404c9021debcfc1f290ad730624700f	22072	61441693923	€1.711105010	22072 64443615688	€2.02/602018			
2023-02-13	1.32 0xae174e06ad45ce55802d0306fadd949ddb8423d2000c45a0ef0a4545dbf25f94	22072	67167846512	€2.113315023			Transactions for key return (one line per authority)		
2023-02-13	1.32 0x55e4b417b168bbdad6d55c7a45a7c9940654de52948a466774a2050c8d06fe76	22072	74780584226	€2.352836071					
2023-02-14	-1 0xa3f974ca4c74f26decab4cb44443a2cf0586d50903b97c5f7ea5c872917f32ed	1692477	1785440337	€4.248855597	1692477 1741066823	€ 4.14325887100035000000	Contract creation	0xaa0ba694e64Ea49447828C28241d104C0846Ce69	€1,406.06
2023-02-14	-1 0xfdcf10b2f4a84a941f656034dca5248d6c077474eb73cfb804e9e2182bef4e00	1692477	1696693309	€4.037662145			Contract creation	0xC8bffDbcC4208cd546036eb0928251eD3Ba7aD41	
2023-02-14	-2 0x2e2d82449fc098f44a82bde64294f65888e9eb71af7e2d8eb68119e5a3442cbf	67153	3040831804	€0.287118827	67153 2918675764	€0.275584714	Transactions for storing public key readers (actors). One for each of the		
2023-02-14	-2 0xee1db1d56c839ae7eedfd606071cf927685cac0797541d96db1f7c6f50385646 -2 0x3c0eb235cbf51ac888af900b9a2b0dfae7a5395624890f485f51121f9a8a363f	67153 67153	2884228053 2830967436	€0.272332121 €0.267303193			users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-14	-2 UX3CUeD235C0f51aC888af9UUD9a2DUdfae7a539562489Uf485f5112ff9a8a363f -3 0xf9c0c1e597bf5af7f44fe8cd972fd859035000c0f107f1396975d9e20a9edf2d	67153	1521380338	€0.267303193	67153 1459007145	€0.137761128			
2023-02-14	-3 0xb00c083237f2e9ddfe6eceb34cbb7b16d4e73494a603e7f28b81de08209c0869	67153	1449831355	€0.136894740	07133 1438007143	60.137701120	Transactions for storing public key readers (actors). One for each of the		
2023-02-14	-3 0xe2eace5113493770751f1d8c8a29b19c8aa053b56d08e13e2d74d2296a46e4e9	67153	1405809743	€0.132738169			users (manufacturer, supplier1, supplier2) main		
2023-02-14	1.2 0x29c29d0d0ceca83d2c841d456f7bffe356830f13c8772352e6c516a53a142800	67533	2559330262	€0.243022357	67533 7012597553	€0.665884356	3		
2023-02-14	1.2 0x0892c34e7ee5786f77bdba7885c60fd14d357623695f1b99168e5fbebd8223bb	67533	2462917463	€0.233867436			Transactions for the storage of the user's attributes. Action 1.2 of the		
2023-02-14	1.2 0xf96b93ddf7caad5ad95d832bf2af09f8edd14907ff80464a6bc287724a76609f	67533	7542974360	€0.716246525			MARTSIA approach		
2023-02-14	1.2 0x2d8637edeb86795da71b6dcf90d032d65aff01eaf83407a1facb099917ca10a9 1.2 0xc8a5d03f6a27bcbc75c2054a253b9a5fc61433a54367d023fea1e87473e144c3	67533	11335621861	€1.076379075 €1.059906389					
2023-02-14	1.2 Uxc8abd03f6a2/bcbc/5c2054a253b9abfc61433ab436/d023fea1e8/4/3e144c3 0.1 0x397d36129b65e8a93fc50778102c07f217ca6fd0a8c8f5365ba05883dc90835f	67533 67755	11162143821 9105077925	€1.059906389 €0.867418879	67755 11419273819	€1.087886757	,		
2023-02-14	0.1 0x39rd38125065663565077610260721764060606053650636506365	67755	8762865501	€0.834817124	07733 11418273018	€1.007000737	Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-14	0.1 0x49464ae22539c6ed7889914f2f3131862f5a95382b938c689da2995ff81b5a37	67755	14338768420	€1.366019987			authorities (each of them: one transaction per authority)		
2023-02-14	0.1 0x47492ec4292f8c9b386ef14ed3b5fc8c1afa84aa9968eb193af873a105a019e2	67755	13470383431	€1.283291037					
2023-02-14	0.2 0xa67d15bacd09c0ac7a063bdc864ea98761d27265350e00fd923917d5642189d1	113680	12549651558	€2.005947610	113680 11693564383	€1.869109864			
2023-02-14	0.2 0xfcb5970d2038b4c4ad9b4927e3e604c0c1131acb6f1cb58e5dac308f3eda6d82	113680	11874930522	€1.898099592			Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-14	0.2 0x47bade767a33b6d8d56e3a80c38e76e5232a9b8f8e4a3824d27e11578d7db984 0.2 0x6b697bc8d16e7330d896bf0ad5e7fd5edae5770a8bf0b7793958621749826a83	113680 113680	11350734614 10998940836	€1.814311645 €1.758080611			authorities (each of them: one transaction per authority)		
2023-02-14	0.2 Ux6b69/bc8d16e/330d896bf0ad5e/fd5edae5//0a8bf0b//93958621/49826a83 0.3 0x4a5f62840b66134e514247e9a593de6840417d9721bd45a040f724ff2df84850	113680	13533190024	€1./58080611 €3.038714604	159693 12939732634	€2 905460904			
2023-02-14	0.3 0x6ce438376d15815f9d0671c1a2367ddeabacee27449b06643e2b2dd269cf1cfe	159693	12890588231	€2.894426121	139093 12939732034	€2.905400904	Transactions for the storage of the elements, 0.3 action of the authorities		
2023-02-14	0.3 0xdf05e1b51888dba36de95f7f0b081d03f4764e74626470dcd93139b9860a2412	159693	13435164126	€3.016704071			(each of them: one transaction per authority)		
2023-02-14	0.3 0x7559735d1b45bb049f234396076d4790161b9126481f2705cf4a68274e0f1407	159693	11899988155	€2.671998821					
2023-02-14	0.4 0x0f7f5c4c2a147ba6286b91a3dc77e50f30d553431c20c6c2947eac23e2b6b6b3	67731	11718042648	€1.115954314	67731 11512088404	€1.096340499			
2023-02-14	0.4 0xdcc57e5b0cff72a5d01230b0e94e75e88909d834c0e4796afe77247ea8885757	67731	10858971914	€1.034141701			Transactions for the storage of the public parameters. 0.4 action of the		
2023-02-14	0.4 0xf861cb1165431ca45da5cdba8ae0b9bd81ddd8edd5502ae8063bc55382940fba	67731	11073580893	€1.054579740			authorities (each of them: one transaction per authority)		
2023-02-14	0.4 0x8649c8c84e7b45e82ee8ed57e27c808fd9632cac58e3bd6a9e9d2f43a7f4ba47 0.5 0xa9ae2360d58a392cdab232ec366bc86d4da86f9af8dddcaeed04ff3c887ea207	67731 67688	12397758160	€1.180686239 €0.994683360	67688 9892619866	€0.941514161			
2023-02-14	0.5 0xc49a3d1a9a09ce14934bd0bffcc6bcf5b7828c3527666f7e1d86c35e722a094e	67688	10224407237	€0.973091490	07000 9092019000	60.94151416	Transactions for the storage of the public keys, 0.5 action of the		
2023-02-14	0.5 0xffd9a53d97480c00a843eec4d5d5c2aeab1d7d787a683643dcf823ed81a975b5	67688	9429313894	€0.897419762			authorities (each of them: one transaction per authority)		
2023-02-14	0.5 0x31355a3b6f3615dc724befc5dd86ea0dfd0f41611f6697406a6423c82debdbae	67688	9465482320	€0.900862034					
2023-02-14	2.4 0x2b22135204e8c592ace9c8ad556252f895f6a516879654ead3cfd3efe9acd2e7	89772	8439363337	€1.065257104	89772 8593830528	€1.084754697			
2023-02-14	2.4 0x2957c4abfc8b1d91aeaf9d3f58037ada792b1774cfbd3be3e4c6bc4a6198567e	89772	9182177121	€1.159018639			Transactions for the storage of the IPFS link, Action 2.4 of the MARTSIA		
2023-02-14	2.4 0x068acb892b13e590af07d059cd8f2b76b5c707e6f22fead5f01887efc3d3e0ff 2.4 0x592bc1fc243d1e8cb6e8207f16659da7f5c85b0a81e88947d04749aaa4d4f0ad	89772 89772	7788413448 8885680160	€0.983091072 €1 121593364			approach		
2023-02-14	2.4 0x9a2bc1fc243d1e8cb6e820/f16659da/f5c85b0a81e8894/d04/49aaa4d4f0ad 2.4 0x9a8a6197af0a568eae2d9a40cac76bb3b96f0e56e42c2d04a8875b06462fd600	89772 89772	8885680160 8673518572	€1.121593364 €1.094813306					
2023-02-14	1.31 0x04c2fdce0562d52463a832a91ef3c2ac464a783a4b5628e23cfd41569c7137b7	21832	13065460427	€0.401071770	21832 13719752739	€0.421156648			
2023-02-14	1.31 0x1d98a5f770d9f41944e218295072cdfd5e60daf1675a10298a34ec45287a6cba	21832	13273522020	€0.407458658			Transactions for requesting the key via blockchain (one line per		
2023-02-14	1.31 0xf963e7037a11b20b885f21bda2732099988f1fa9779a57f56382dd96dd98cb74	21832	13274330339	€0.407483471			authority)		
2023-02-14	1.31 0x67589690bec7de47985983d2558c440dc143d9b7df181a514abf9cb42ab7d725	21832	15265698169	€0.468612693					
2023-02-14	1.32 0x5ba94c8665999b98e6d2d750b99c6fd2b856d5b15af678081b94023449693c5f	22056	14006585285	€0.434373054	22056 14042576730	€0.435489223	3		
2023-02-14	1.32 0xa75a0641ceb4a0b66a90ccd76508ba77faf92971352c8d48dd528e3e2265a357	22056	13260368237	€0.411231327			Transactions for key return (one line per authority)		
2023-02-14	1.32 0x9b1ebb2a190f55003a4fd5b30ffe125fa8097b0edaa372b6a855fbe05d19f90f 1.32 0xe3b78e98df3fbf0200f5e2481022c5166ad64baecf4ca567ea4967ff572740dd	22056 22056	14168151112 14735202287	€0.439383543 €0.456968968					
2023-02-14	-1 0xd104962bbb85c45d59171f0309de9aa0d800a57d41061fb8f57d95ed3ac3a2e9	1692477	28033052121	€68.471153310	1692477 30410021973	€ 74.27693808298570000000	Contract creation	0x5c0BBEe7663E73254E698612e4d66193b1A98Ef0	€1,443.16
2023-02-15	-1 0xc277b98c9b6c5f7ffa94062dbe37682a14c6a1770193b25ce4d1137426640db7	1692477	32786991825	€80.082722856	. 202-17 00-10021070	2	Contract creation	0xdD6a1A82106E43680FdeAc417bE1620f284D90aE	Ciyrono
2023-02-15	-2 0x3ddc9c7b63f7b10c9464ad69a807b3222f90e10790f60784b58821105ec8c62b	67153	26353133494	€2.553948669	67153 25715756674	€2.492178873			
2023-02-15	-2 0x199be361c229956a565e3f442ee2aab55763a9d078068e31663faad2e28f2ec1	67153	24481507162	€2.372564638			Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-15	-2 0x0c7787e9bca509b52a411c660a9edd4a51766ecb87464e886a40760cb572ba6f	67153	26312629367	€2.550023311					
2023-02-15	-3 0xfaab383c59a22f8f7411fae5771a8302154347c53a8af6f982442b811dcd0cb7	67153	32344385246	€3.134575995	67153 29871587288	€2.894930904	Transactions for storing public key readers (actors). One for each of the		
2023-02-15	-3 0x74c21c14dc8b68f44bbe6381181822e4169c63b82aef722eb4d57a12f0c3ed27 -3 0x9eb079996f09bb4ac39254c9e5d70129c3036f8a699d64546c398cb2952712db	67153 67153	30496010315 26774366304	€2.955445316 €2.594771403			users (manufacturer, supplier1, supplier2) main		
2023-02-15	1.2 0xac22a1ae5e2ff9fb919116162d63328d28227c03a90e1ca3b818e5178ad43e36	67533	25751396410	€2.509754896	67533 23239644969	€2.264957279			
2023-02-15	1.2 0xf2565abf0172c154b813b572e8164a35a559bca71faaee3e6a757231b0d37207	67533	22825638872	€2.224607862	07000 20200044000	CELEGROOFE			
2023-02-15	1.2 0x704b1c485c6f3b08a64d63eaa4d80cfb3a89f0e90d239280bedadee41699cb29	67533	22721096727	€2.214419088			Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-15	1.2 0x839493d9d5bf722c6f01ee5b502117926e3c624ed4216366ec419db2ff6f719e	67533	22712560451	€2.213587134					
2023-02-15	1.2 0xb28af51f7cff11a63f4ed21f73afacbd48c700b23921f4c783485d7e688f1c38	67533	22187532385	€2.162417414					
2023-02-15	0.1 0x53062c0fbab2a53b5726f3b4dfbfc913a3f47e61137f56f6f238e95f0cc10e6b	67755	22895957770	€2.238796648	67755 23968045671	€2.343626803	3		
2023-02-15	0.1 0x6f828d3773f9ceb2b57c4ccde689c0cc34cf19d291b6f53699c80d6c74ed8616 0.1 0x4cd749ae6e855657c1328afc7266a9c700934f167951fc3f79da5b60afb9c2dc	67755 67755	24480120025 24591596372	€2.393698102 €2.404598405			Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-15	0.1 0x4cd749ae6e855657c1328afc7266a9c700934f167951fc3f79da5b60afb9c2dc 0.1 0xb6000984b516b4577d1469a348bba437933000253979c1f6995a4a268171a13c	67755 67755	24591596372 23904508518	€2.404598405 €2.337414057			(coor or aren. one autoaction per authority)		
2023-02-15	0.1 0xb6000984b516b4577d14698348bb8437933000253979C1f6995848268171813C 0.2 0xac78eba88cb8d839598dc237b1ffe062b7fa26796fdf0531c65c8d9c83c29112	113680	22992742759	€2.337414057 €3.772153251	113680 23090076076	€3.788121602			
2023-02-15	0.2 0xf71f241541b6e94be7891388ccdfd6386585f15fe1935dbd3364432e9f1163c2	113680	24330710217	€3.991658090		2525121002	Transactions for the storage of the hashed elements, 0,2 action of the		
2023-02-15	0.2 0x3a226081b476bc3be7a4d43c2f52e6ea3a805a0b16a4c255744e828e910150dd	113680	22724257996	€3.728106062			authorities (each of them: one transaction per authority)		
2023-02-15	0.2 0x201be21b06eb9c96b2672e391fc6fcf8d55652b8aced6df0cfa6e3289a984d17	113680	22312593332	€3.660569005					
2023-02-15	0.3 0x7c172103efcbd74dd81ddb129c334efb0032119bdec00e046c5b7d489f9b6563	159693	19880940521	€4.581812246	159693 18032403999	€4.155793806	5		
2023-02-15	0.3 0x7078b7da6ac5f68e68a630736a6db3933ae3984d8cc4c20c194be4c41e51b6c5 0.3 0xed1f9bc50f1c3509f952405de4fa6a420985f46fdf1a524ce8eb858153582ba3	159693 159693	18617005770 17869652428	€4.290522621 €4.118285664			Transactions for the storage of the elements. 0.3 action of the authorities (each of them; one transaction per authority)		
2023-02-15	0.3 0xed1f9bc50f1c3509f952405de4fa6a420985f46fdf1a524ce8eb858153582ba3  0.3 0xc3c08e4627613ae97ec2f05eca777bdf7ca763b6ec1aa796efdd6077fc9c049f	159693	17869652428	€4.118285664 €3.632554693			Community of the second		
2023-02-15	0.3 0xc3c08e4627613ae97ec2r05eca777bdf7ca763beec1aa796efdd6077fc9c049f 0.4 0x3805b70281e6c972ee9ce8b2aa4cf59e4deedeaa8eca2697f84ee4e21aa045bd	67731	14653242334	€3.632554693 €1.432305642	67731 13468620640	€1.316512816	3		
		0.731		J102000042		C1.515512010			

Test date Op	type Transaction hash	GasUsed (unit)	GasPrice (wei) Fi	inal cost €	Average gas	Average wei	Average cost €	Transaction type	Contract address	ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-15	0.4 0x7f782d271abb4cc46cef5d396ded303cfeac9fd02001208f97163f9859270725	67731	13144777044	€1.284858183				Transactions for the storage of the public parameters, 0.4 action of the		
2023-02-15	0.4 0xcd253bd913a7ef4b67808f2cef0f995aef8c63a9f25cad3e24cd325af804c383	67731	12876939294	€1.258677935				authorities (each of them: one transaction per authority)		
2023-02-15	0.4 0x59762e21d4c507834bd7c6d9f042189aaa2f662d675408c657c56c61934dbbd4	67731	13199523886	€1.290209505						
2023-02-15	0.5 0x3027f52662847fe1c40ed89c8135c411928780ad27b816addac4e1e1aabc61c4	67688	13628189588	€1.331264441	67688	12961306567	€1.26612023	D		
2023-02-15	0.5 0xb2d15687d9dd257a7dd4c17fd8a46f4794ce8ac7ad32d233ab421ada2bce8cfa	67688	12498996807	€1.220959679				Transactions for the storage of the public keys. 0.5 action of the		
2023-02-15	0.5 0x86eb5b10f3fec18d136bc91bb6866b2787cd972cdf9212f8bdbf785d8de5c43a	67688	13359244314	€1.304992625				authorities (each of them: one transaction per authority)		
2023-02-15	0.5 0x6f4e3d070b1e770ef8ea19d47f3cecaef01f7f4617a513bf3639f5341269606c	67688	12358795560	€1.207264175						
2023-02-15	2.4 0x39f4b8277595f25d46074b8c5bade54bbfd24d392a3d4b460df17ebb1dba12de		12763381060	€1.653564422	89772	18081915155	€2.34260901	9		
2023-02-15	2.4 0x07402fee27ef60ab47cb6bbdbf599418a13bf14cfd4b5ce8d45a687d694a7d58	89772 89772	18508954187	€2.397934214 €2.616980163				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA		
2023-02-15 2023-02-15	2.4 0x6ea60679ba5243d2bde854618f371630a787ad8c46d948d6593dbeab6266f908 2.4 0x5ee7f77eb566f954db2fbf2cce98acbc889c1ce369c4c6de2ee90a096b070983	89772 89772	20199705921 17590475072	€2.616980163 €2.278940322				approach		
2023-02-15	2.4 0x3689ee47a0e32d7c64146a0a1818704ae842be4b2cc8e5ef65586284b7c2f7a1		21347059536	€2.278940322 €2.765625973						
	1.31 0x98b1f73c75b0936963c1c302635aa2d33c9523c54e037a7a040b07288561749d	21832	19734886283	€0.621788426	21832	33151736769	€1.04451406			
	1.31 0xdc097e4c0a9227551e0a4348f8ccf614c4fc13dfe924ae78b59a1f4faf0ba58b	21832	39902955953	€1.257225191				Transactions for requesting the key via blockchain (one line per		
	1.31 0xccb23a5a21bbafb3db4fa039859a78844857f4e08495fbdf5f7008547f38d018	21832	37609036147	€1.184950501				authority)		
2023-02-15	1.31 0xc3b1450241f1f6d9eb31bd274dce0d438ea89d429658048cd7c6eab21d81795f	21832	35360068693	€1.114092128						
2023-02-15	1.32 0x935af545f434f4e626c2203fa3b697c5693a2abb95232a1bba38db3e6ab9544e	22056	40058853013	€1.275086790	22056	36854730147	€1.17309847	9		
2023-02-15	1.32 0x490e3a8b5336c05164866e673dfb7771e2865290d937409e288297ad16d082b0	22056	38467249983	€1.224425529				Transactions for key return (one line per authority)		
	1.32 0xdb33eaf79935f3b23c39627b6b0585301a84a248126d7c4f82f1823fd0e78c57	22056	36464991948	€1.160692981				Transactions for key retain (one line per dationty)		
2023-02-15	1.32 0xf247d61f4d89dbf0ca4c77359e70900c997693e22e0a33e1a54f05877ab58f94	22056	32427825644	€1.032188617						
2023-02-16	-1 0xdae298a5560cc83c3ee95f9362dd899cb6ebdeddc84bc160979739ce37672d27	1692477	2646800729	€7.049937769	1692477	2403932064	€ 6.4030401937496900000		0x33d3E46E370312ed90204D06135e2DC75BA7cbdb	€1,573.77
2023-02-16	-1 0x625b8961fd648599c808950203ef7b0d15a9b15edc69da404e9b27d42fb14f4c	1692477	2161063399	€5.756142618				Contract creation	0x463AD822C2Eda91e0f8563Ad55f0A8C98bAD06d8	
2023-02-16	-2 0xb931204e9b9256ba13bb8f1484c4e0046f3cbf6c97a5eb9dcfa359031ef55314 -2 0x186e20408f3d444527b8dd14193f1d2a9e5e6c4fc856cf4a23fa20f03d2b89bf	67153 67153	2255587773	€0.238378133 €0.245453247	6/153	2241822338	€0.23692335	Transactions for storing public key readers (actors). One for each of the		
2023-02-16	-2 0x186e204081304445276800141931102896564168566142318201030208901 -2 0x5a4913f8953eb818633da8f0c6ac9162cd45ea8b035159337d9c0e1548051f48	67153	2147345140	€0.245453247				users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-16	-3 0x3bd2769fec113dbbaedb49e7201ad9200bf384a780fe953195b62607656e1f77	67153	2657530211	€0.280856767	67162	2872577315	€0.30358367	1		
2023-02-16	-3 0x5efd8dd9f0217936a867208a7d30e6c2507bdd5027bf19111f7c1c5d79ef4119	67153	2994522596	€0.316471260	67 133	20/20//010	€0.30336367	Transactions for storing public key readers (actors). One for each of the		
2023-02-16	-3 0x632d447370f1093772053e65926c80e13ec187b938071a885e9b1dc2bd86116a	67153	2965679137	€0.313422986				users (manufacturer, supplier1, supplier2) main		
2023-02-16	1.2 0xe513f42f38383720310cc71a325b26948a409224f0243566d338c537a673793a	67533	2061097965	€0.219056397	67533	1787192412	€0.18994532			
2023-02-16	1.2 0xf871f827532a9db2e0bdaddd7c99cde4f3e0070324fcee77503e458785c47c32	67533	1799686590	€0.191273227						
2023-02-16	1.2 0x6519addddee52eaad0c6a787e13afc6dfacbaf40149f22124e1c89848d5474a1	67533	1893034932	€0.201194421				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-16	1.2 0xfc0695da9651aa05972876c39ae309be8c73edad9fc12cd7e964ca0a3c5b7860	67533	1622959071	€0.172490377				WALTON approach		
2023-02-16	1.2 0x017b42ec62108e8277c286352245c772c8c5a3a0543d0ded0168c64a6e795781	67533	1559183501	€0.165712220						
2023-02-16	0.1 0xe2eb492f5b285c1430189f5a27132cfe54654f971ce7910a26cf89855227cbd6	67755	1342279043	€0.143128270	67755	1344578483	€0.14337346	1		
2023-02-16	0.1 0xa8a32cf57ef2ccf1460de97c079ab4a6d2f1bc050cea3016bd39b931033b2756	67755	1409502732	€0.150296385				Transactions for the storage of the authorities' names. 0.1 action of the		
2023-02-16	0.1 0x70de5ff43aded5858e15408d1e01a580a0e8476a711f12281d78d353a8ec01b2	67755	1318141893	€0.140554507				authorities (each of them: one transaction per authority)		
2023-02-16	0.1 0x8947b0086b462f760a99a6b025124339bc4c7753d5fb5a1e259f51ef0b49b4a6	67755	1308390265	€0.139514683						
2023-02-16	0.2 0xf44ff2ed18c983d975f06795f646c3ff0200356aaa1c450d3e99be04c2e90df7	113680	1173344924	€0.209918651	113680	1006202797	€0.18001589	2		
2023-02-16	0.2 0x65f7e6b1f952ca77f661d8101151d3eae4f004fa0111016a448f1be9b10dabc0	113680	1356477418	€0.242682184				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-16	0.2 0x93e2abfc8215d2d6a859ee9ae1425c51554fcf591603383bf1d7a4524a526511 0.2 0xc582b98a264e2c9e59089fc9a451598c2a82c428ee01b3a34ac8cd48c6de5cc7	113680 113680	139011077 1355977767	€0.024869940 €0.242592794				additionales (each of them. one transaction per authority)		
		113680			450000	4040007700	C0 00004400			
2023-02-16 2023-02-16	0.3 0xf8931001173dd4ff9d00433f8b7a289c4f9a8c3c3564c54fcd997ff06f8f3b11 0.3 0x0999cb89983f60359413b2eb3f84fa070f9f597f507bb2cc57dc15c0c37ae349	159693	1269343625 1290148763	€0.319011507 €0.324240255	159693	1310327723	€0.32931163	Z		
2023-02-16	0.3 0x2959505995360359413026036446070191597150700255705155053749349	159693	1386143261	€0.324240233 €0.348365597				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-16	0.3 0x91278cf3fd1ec7d417736f1470b87f3f80f832d0e8a1c6d11216e912a1818312	159693	1295675244	€0.325629170				(,		
2023-02-16	0.4 0x2388828111a8e172349f2564cb617e957e446e945026c9fc4cc634a52223edc6	67731	1315137378	€0.140184459	67731	1947768505	€0 20761851			
2023-02-16	0.4 0x50371c5f85649800fd9b8ae55d817c4139b3d4cd2f54bf1b24401bc97be149cd	67731	2174295150	€0.231764677				Transactions for the storage of the public parameters 0.4 action of the		
2023-02-16	0.4 0xcb9c4d79e081ef201d6ed6046ba99913f3fc8443822c17afb4a2d7af8995804c	67731	2229937046	€0.237695715				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-16	0.4 0x44365a2d7938d14c1e56932d0990b1b4deddecfa37a3dff69ad15d988c8b86f3	67731	2071704444	€0.220829225						
2023-02-16	0.5 0x2ae9162bb29bfdce882d3b0218dda3171af345d5f21d395c82be3bcd8b7fa103	67688	3491541822	€0.371937693	67688	3661060228	€0.38999569	9		
2023-02-16	0.5 0x07f3f3ff3350b6c05bc0013cc6608b26656cdb96489b24f4a22b67e942de6265	67688	3935948092	€0.419278224				Transactions for the storage of the public keys. 0.5 action of the		
2023-02-16	0.5 0x89ecf68fe719f54f3e26d3920357fb457bcee869428d063d8991d123d27d1e45	67688	3614443086	€0.385029792				authorities (each of them: one transaction per authority)		
2023-02-16	0.5 0xcc332f9785be53105af14981eeeb30f62fb2530067c4946740777fcbd6249fe0	67688	3602307912	€0.383737089						
2023-02-16	2.4 0x7184c4c2a326d5eafeaead05d46f189ff03139ff12334aeab98000c3c6694ad7	89772	2912518874	€0.411482066	89772	2961942982	€0.41846472	7		
2023-02-16	2.4 0xd6147abf17138a2d826d73c1bbb269738b628af3ea6804e0d8aeadc0d5196352	89772	2976275159	€0.420489584				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA		
2023-02-16 2023-02-16	2.4 0x7ff0a5e424efc28ecd28276fd4af09a339e8e61b383ac99d87c1e7ac4c50e4ae 2.4 0x7f10e3cbb85a237947416159664698a3bed027f269b378799e6a115d86443e3c	89772 89772	2677830117 2518831660	€0.378325125 €0.355861747				approach		
2023-02-16 2023-02-16	2.4 0x7f10e3cbb85a237947416159664698a3bed027f269b378799e6a115d86443e3c 2.4 0xbc859606d85193e14035c5173170d59ec9cfba34d11f38ba816f588d15067666	89772 89772	2518831660 3724259098	€0.355861747 €0.526165115						
	2.4 0xbc859606d85193e14035c5173170d59ec9cfba34d11f38ba816f588d15067666 1.31 0x50241f38759613b172cfc13e9d954316b4a188b180e0d24827b5c385e90ad357	21832	3724259098 4216235758	€0.526165115 €0.144863733	21022	14691466779	€0.50477744	7	1	
	1.31 0x30241367596130172cic13e9u9343160441606160e0u24627050365e9u40357	21832	19503857325	€0.670124192	21002	1-381400779	CU.JU477744	Transactions for requesting the key via blockchain (one line per		
	1.31 0xf75d610d66ca981ff22c231ab6c9b12a5450afaa54ac3ac529d5e3226e4210ce	21832	18413280486	€0.632653556				authority)		
	1.31 0x359637f80e044a99f650f7e747973828cbb1bc1d7cdcd409491b77a215ddfe62	21832	16632493548	€0.571468305						
	1.32 0x57cf6006787d5b782349ce094c67f30709078af2eb992a2db45563bedef12ea5	22056	3567126043	€0.123818766	22056	12855221760	€0.44621851	7		
2023-02-16	1.32 0x459cd7f422ec97f16755c5a0c0802aad086c7112c2995f73de4f9f10f129137d	22056	18414915464	€0.639201440				Transactions for key return (one line per authority)		
	1.32 0x0578a48d499805b570a6d7092b867d1447f5ca19577fd83a4b15de088fe5e9a2	22056	15654911038	€0.543398730				Transactions for key return (one line per authority)		
	1.32 0xdbc0fc263a7302bb4307c8a1a132d5b30cc72fc680030a2d2ce286e814faeb97	22056	13783934493	€0.478455130						
2023-02-17	-1 0x0a2ed6b29a22b0fc7be7d970faf8fd7237412b4e0d80c48f88400f97449cbfca	1692477	10427400448	€27.605742881	1692477	11351255568	€ 30.0515784489836000000		0xe39A7274e7aF12bC96F59b6c8B740DfDD587953A	€1,564.23
2023-02-17	-1 0x01208e050f7315d1f8505497aed3821ddfb5cc9f5a6a8a5cd20144e37089e03d	1692477	12275110688	€32.497414017				Contract creation	0x61EDEb1AaF9de9dD884355EDa124DbB91BC39db	4
2023-02-17	-2 0x1e40f3854724f2eb21bd2cb9c696fa284d252d9bf333a218a030fa31cd29f36b	67153	8942945016	€0.939391423	67153	8685348804	€0.91233281	Transactions for storing public key readers (actors). One for each of the		
2023-02-17	-2 0x03222b4e3b0dbdd5fe9a9d2dfb63f8e8144ddc4acaf9b3f3804d8ba9c3e01597	67153	8703045754	€0.914191748				users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-17	-2 0x8e65d31e54b623901ef59da515a8355292ea2cf4b8c6e814088bdef13738eedb	67153	8410055642	€0.883415265		44754				
2023-02-17	-3 0xc7bf20d6ca52d262c4c2ca9bab725df4b50920b3e964f003f8b73790ba5f5bd9 -3 0x1f107e338c3498a58eaa0b4de767900e5e423153b182a0aad25ae37fdc35d343	67153 67153	12518954030	€1.315025198 €1.262451084	67153	11751793354	€1.23444054	Transactions for storing public key readers (actors). One for each of the		
2023-02-17	-3 0x1f10/e338c3498a58eaa0b4de/6/900e5e423153b182a0aad25ae3/fdc35d343 -3 0xbdffe4b1c9c5576469311f74cf46c245c24e14ab0acc72527890b12bfe47d9a6	67153	12018451901	€1.262451084 €1.125845340				users (manufacturer, supplier1, supplier2) main		
2023-02-17	-3 UXDdffe4b1c9c5576469311f74Cf46c245c24e14abUacc7252789Ub12bfe47d9ab  1.2 0xa59178031ef34ef8bf54437bfd7eca6bd9d7bed479fd76bde7725f9effe521a0	67533	8608223224	€1.125845340	67522	9808170015	€1.03610707	4	1	
2023-02-17	1.2 0x3991/8031er34er8br5443/brd/ecabbd9d/bed4/9rd/6bde//259erre521a0 1.2 0x396d64ec383f77740e4e38c85e024be9f13d66025810d000994e8eaa6486c3af	67533	7237661307	€0.909348121	0/033	30001/0015	€1.03010/0/			
2023-02-17	1.2 0x53e0deec3c37774deee3c63e024de913dd602361dd00d994e6edadee6c3a1 1.2 0xf53ef99299dd09507ae3504f96abece623a3f448c07aad05c8d75d237e96ce18	67533	7256302576	€0.766535084				Transactions for the storage of the user's attributes. Action 1.2 of the		
2023-02-17	1.2 0x9dadadcf94e54816917459d8441f65ee10559c5e26b9a660d42f680cc6753006	67533	7077099551	€0.747604589				MARTSIA approach		
2023-02-17	1.2 0x227e1240526310e23d5bf9622997cc94f484f57438cc78cb818040fd3ce3a503	67533	18861563416	€1.992481702						
2023-02-17	0.1 0x2f79266334ff14733a10d9bdbaa16cb2a6757ea3e34a9e54af7619edee45ac40	67755	18148518948	€1.923459958	67755	17741273266	€1.88029826	7		
2023-02-17	0.1 0x45582a85831c5043250337aa4bd628d98d374f6ed348043c87c0fc5c0dd7fc5c		17175920509	€1.820379692				Transactions for the storage of the authorities' names. 0.1 action of the		

T	to Tours to both	2	0			A	T	PTIFIN ( ) by the second of th
Test date Op 2023-02-17	p type Transaction hash 0.1 0x902afc0b804feb7b9adba26f23e594d08350a7b5f5a23df0de91cca9ab4daab8	GasUsed (unit) (	GasPrice (wei) Fin:	el cost € €1 858218152	Average gas Average wei	Average cost €	Transaction type authorities (each of them: one transaction per authority)	Contract address ETH/EUR (adj. close, source: https://finance.yahoo.com/quote/ETH-EUR/history/)
2023-02-17	0.1 0x1ee92fc8976aa323793dfca456c6cf388caa0b879f538316362e0cf8e95baee7	67755	18107713964	€1.858218152 €1.919135266			autorities (each or them. one transaction per dathony)	
2023-02-17	0.2 0x4807cd997b9e71cb61ab9deea13387e63bf33e1bd2f4bc1d52d404c6ce8d7775	113680	17872786297	€3.178168643	113680 15697034183	€2.791272776		
2023-02-17	0.2 0xb6f7cdc1d58fc25454bf3ebc5480948a9e2c3bbe3a3b3d7a54e1d7d4392dbb70	113680	15745845664	€2.799952515	110000 10001004100	CETOIETET	Transactions for the storage of the hashed elements. 0.2 action of the	
2023-02-17	0.2 0xed93c7da86836e5dddd17e9efbd9b28e0bea590f292504e059bd33b886a3f2c1	113680	15166801258	€2.696985874			authorities (each of them: one transaction per authority)	
2023-02-17	0.2 0xee9c3f46c0be9f14e3c41a55333d560ce32d2fb7c8593e25ff417ffc594ed82b	113680	14002703511	€2.489984072				
2023-02-17	0.3 0x14086e65bb756d809367e5b51bcc50ee3d32eae262b9b02413f1f549b1499091	159693	14527763128	€3.628985565	159693 13698248774	€3.421775715	5	
2023-02-17	0.3 0xb66001e6de77ef17a37a8133d61faee8ec65561f9d56871a838948fde56ca522	159693	14624843973	€3.653236028			Transactions for the storage of the elements. 0.3 action of the authorities	
2023-02-17	0.3 0xaca35b1fdd48399e646b107c521b624a1f2417978641f57a21d9d67f840bbd9d	159693	12605968181	€3.148927757			(each of them: one transaction per authority)	
2023-02-17	0.3 0xa83019c2f17d14d0b702bafddfa48cd2d10ab36018ac9a7f4fa5cc242fad34cf	159693	13034419812	€3.255953509				
2023-02-17	0.4 0x36243d57e919656017525c00f54466f9b26c90f640c38c2edb9afdedd21df836 0.4 0x7e365d0ad7ec15e2c33bcd33c0940882ecfc7ad213ca06a1ff2d3be4c7d7049e	67731 67731	10253549899 11560926540	€1.086331437 €1.224843890	67731 10870379032	€1.151682549		
2023-02-17	0.4 0x42965bdd768513faa4d0e600908e7b7497b1d48496925f9f479b4c6e8019168f	67731	10469425058	€1.109202733			Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)	
2023-02-17	0.4 0xdff4c51c0b077c403f8ecadae661836df82f65809c540b9dfa1d644e8fc2a5b2	67731	11197614629	€1.186352133			,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	
2023-02-17	0.5 0xad243e59f84fc49448c9995036e85d83ef3c4cb7a4dc3ff639a5a93effc48586	67688	10785980196	€1.142015271	67688 9930362825	€1.051422846		
2023-02-17	0.5 0xa497de569c40ebf736bc798081dc3ec10a119c121782175b1bed1b8dd76e5b72	67688	10325017088	€1.093208682			Transactions for the storage of the public keys. 0.5 action of the	
2023-02-17	0.5 0x7681c371f0045ce1da1d9c86ae521ad9a25c4954c931a9bff870a439f70b0d69	67688	9190016948	€0.973035321			authorities (each of them: one transaction per authority)	
2023-02-17	0.5 0x33e4a51f2f556fdef8f85b6f83a2309e98dedb44947ee24758448c287f57383c	67688	9420437068	€0.997432111				
2023-02-17	2.4 0x737c40721f4f20833dbac6afafaa2778b826fcd80b475e717035872dff41b6f6	89772	11322755216	€1.589987208	89772 1116327537	€1.567592401		
2023-02-17	2.4 0x3d011113946a34a0ca817b2b05c5dbf130438dbea583b1faf7b3bebc88212094	89772	10552062033	€1.481763345			Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA	
2023-02-17	2.4 0x472ce2719c1fead9901eb08f9d838db28f78c287a71bd90c8ab8577793198272	89772	10817262854	€1.519003920			approach	
2023-02-17	2.4 0xaa7c2ac645b9d6defec95511fde599d8e39c536e902f9282cc1cf5a2a425b130     2.4 0x4fce394cc40c6c3475158086f64d211dfc36e1ab012882aedf08ed34c5a393d7	89772 89772	11236466887 11887829875	€1.577870250 €1.669337283				
2023-02-17	1.31 0xa692b93877b2c72e9a055a73350023c3c1f38e70ce54338a254572389b7ef3e0	21848	13115805275	€0.448236541	21848 16661287552	€0.569404451		
2023-02-17	1.31 0xa64765e5be7f625913983400cb35c9626905bc2846eb22f93f3c616dc393c9d6	21848	17044020521	€0.582484464	2.0.0 1000120/302	C0.00040445	Transactions for requesting the key via blockchain (one line per	
2023-02-17	1.31 0x89d83342ecb539893517f360579d24cf01f687ee97f3a2518583c6b6e312f94e	21848	18351184220	€0.627157172			authority)	
2023-02-17	1.31 0x5c140047b4dd7bbeca3628b54165357ff92441034a347c311512a671b4cb813e	21848	18134140190	€0.619739628				
2023-02-17	1.32 0xcba65a021b099b4e6b0220eebaa758a6c80ee82236059ced46eb1e714a533436	22072	14618996553	€0.504730864	22072 17005937643	€0.587141639		
2023-02-17	1.32 0x02f84c8508f946869a1d39e4fa7d33de921675db3a72abde10ba0166c2ea1123	22072	16738707824	€0.577915346			Transactions for key return (one line per authority)	
2023-02-17	1.32 0x1fe4f4079437428d09f932284e09e66ac356bce2566e2da4ee30a19589cd9faf	22072	18651698136	€0.643962646			Transactions for key retain (one line per dationty)	
2023-02-17	1.32 0x961771a3e3be9cafd98857df38bfbfcc44d90c626037aa16a4d04ca1006ee0bf	22072	18014348057	€0.621957699			Out to the state of the state o	
2023-02-18	-1 0x2e63421338f6a668bc2e377aa893d529a344b1369ba2a2824b200ae7dcb9ae01	1692477 1692477	914104552	€2.445951099	1692477 927357130.5	€ 2.48141220567647000000	Contract creation	0x6a2B14228bFb65928eBf03F5f22FbF758A7b2f92 €1,580.99
2023-02-18	-1 0x42d6d3a3c54082623a0b0e700e53a0962b7161f82c1ef422943c0b429783c646 -2 0xe8b531b9289bb7692a65d9927139c15ddbb52d319b1cd7a9150c358a4fe3793b	1692477 67153	940609709	€2.516873312 €0.096507671	67153 908583994	€0.096462747	Contract deation	0xc043776dA2379dFEc7819a013F1A83c4b4D21dA6
2023-02-18	-2 0xa5e63da2ef77b5321da9ccc5f442cad55c94ccc76a0db448184dce80322774c0	67153	908372422	€0.096440284	07133 80030388	60.000402747	Transactions for storing public key readers (actors). One for each of the	
2023-02-18	-2 0xaa2ae20241ac388014b940cea6aa5c9298cbbe4fb663cc00b3b5c38f2f7e5f06	67153	908372422	€0.096440284			users (manufacturer, supplier1, supplier2) key_on_block	
2023-02-18	-3 0x4ed6c8996f7b434bfa330f15267eb56a2d79c552ddcac49a67130b40bde5f2ce	67153	928121552	€0.098537014	67153 925249009.3	€0.098232042		
2023-02-18	-3 0x18edefb8a04388399ef2c217eaa3215874e97cecb2a0d63925c77158e345837a	67153	921536886	€0.097837932			Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main	
2023-02-18	-3 0xcf536582143c2b9b7fb1fbd619d9e34a8c8dbb97e28ebac31a1a1b28092ebe02	67153	926088590	€0.098321179			docto (mandidatato, odppner), odppner2) mani	
2023-02-18	1.2 0xa1be5b64465deeceb57431ea796b1919059e9ed115ab86bb8006ee7f2cdcee04	67533	858171275	€0.091626087	67533 750402786.8	€0.080119753	3	
2023-02-18	1.2 0x5d6ed50d2a4b628e96dc18fe089c5c98331eeb5f57f5387589193ac83e1b2135	67533	765954440	€0.081780188			Transactions for the storage of the user's attributes. Action 1.2 of the	
2023-02-18	1.2 0x8c0cc49895285f156a2902905bcdd3a9f5c40ef54214354be214813161d96fe9	67533	708586056	€0.075655023			MARTSIA approach	
2023-02-18	1.2 0xb2763f0d160be15a69c78f08392c6252f07d2025b5d7582d1ed47356bfdd7c92	67533 67533	709926729 709375434	€0.075798165 €0.075739304				
2023-02-18	1.2 UX593C393449a96895239e97e809d11bdfaUab8b172b2U7b57f927f0543a161818  0.1 0x876847410edd3ebafb194d1515d6eb7e81b423b8e5ae7d837abb12ac8b8a69d8	67755	709375434	€0.075739304	67755 712905973	€0.076366472		
2023-02-18	0.1 0xd708aa5925180e159f3407f98c43ddacfa4b476f9c7690876f22092d25620824	67755	711091608	€0.076172117	07733 712803873	60.070300472	Transactions for the storage of the authorities' names, 0.1 action of the	
2023-02-18	0.1 0x8482edff33db06b5f03c4a9f51ee9b7947d52fadc4f57da421621096c362d1ba	67755	716746028	€0.076777818			authorities (each of them: one transaction per authority)	
2023-02-18	0.1 0x0c99799afc5f2d24d1b22fbbf87053015c06ec43af2dc8bc4028e220e33c4690	67755	715410674	€0.076634775				
2023-02-18	0.2 0xa95b92f7d3d1a6adfa5edc0787ef34d0a7d3fe2e8ab2999d7cd53dbdb0e73498	113680	711801840	€0.127929969	113680 708452538	€0.127328009		
2023-02-18	0.2 0xceabd4b2802d79326cb5eb8ae202727d907b2803050fbb205d9fc2a9c1741727	113680	705596079	€0.126814626			Transactions for the storage of the hashed elements. 0.2 action of the	
2023-02-18	0.2 0x44fafcf11f5a4036b6d6fbf2b49de882704619239d3ca69ea3809017d07691c1	113680	708298789	€0.127300376			authorities (each of them: one transaction per authority)	
2023-02-18	0.2 0xd50df0a516ebc675dde2ade3bdeeeaf1b96d4ebdbe2a3c3572b9bfeb4707ef1c	113680	708113444	€0.127267065				
2023-02-18	0.3 0xc43fd5b276380c2fa2f8de8dd4b08009ba2f3f67e7033d233799085fe90c7849	159693	706041306	€0.178256392	159693 710034971.8	€0.179264685		
2023-02-18	0.3 0x07ec4ce635dd3bb1377d4ac56f0ad52d22bac93de0bac8fad8a41ca1e869bb4c 0.3 0x75a060386c6238f03f4cc9c4ac6c1baf70667eac8629961b391187139505d8ce	159693 159693	712036677 713784936	€0.179770062 €0.180211450			Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)	
2023-02-18	0.3 0x75a06038665238f03f4Cc9C4aC6C1baf70667eaC8629961b39118713950508Ce  0.3 0x5850ee561c23646a59195e06b09fc02aa9e7e5cef56d3d22b974ab88511edc8d	159693	708276968	€0.180211450			, , , , , , , , , , , , , , , , , , , ,	
2023-02-18	0.4 0x915e16178b7a070ee5f91ab0c8e369261935d47e7b82cd6f21ce050641745baa	67731	703195173	€0.075299569	67731 698472663.8	€0.074793873	3	
2023-02-18	0.4 0x3e2a9adb407c1a18a09285880e10e3f8752122e1e602490e9664b7666b05f68f	67731	699586527	€0.074913148			Transactions for the storage of the public parameters. 0.4 action of the	
2023-02-18	0.4 0x4d1aaa8a59f68b406a12011a01089c38e95f9009b0b5d3865b48412b88453799	67731	696874985	€0.074622791			authorities (each of them: one transaction per authority)	
2023-02-18	0.4 0x65ad12b0d54722fbd2c140b0b4327d076674473ebb84ca9c27ffc55b3588a97a	67731	694233970	€0.074339985				
2023-02-18	0.5 0x81bb2195f67aaa989004188e80e9a580ae43d4514a5d8732fb7d20bd8d449e7e	67688	691921119	€0.074045282	67688 690340563.5	€0.073876140		
2023-02-18	0.5 0xab0d63d25819b210c449f6a3532ad4cec28fd6a06c441f36e838ffe6332a1a1b	67688	691668811	€0.074018281			Transactions for the storage of the public keys. 0.5 action of the	
2023-02-18	0.5 0x0738597005c08c238ebe5160ad5b2d99df1a462249f165feae853d53c0d3491c	67688	690097171	€0.073850094			authorities (each of them: one transaction per authority)	
2023-02-18	0.5 0x9f99addd741dc8d08971eeada31e8bf0e9f76cab02ecd7b7229e7a394e97fba0 2.4 0xd9d3426bb8b17993cfb94a835eecd30202280b02de0c82eecc16c255ada2d668	67688 89772	687675153 685995519	€0.073590904 €0.097362407	89772 684447600 4	€0.097142713		
2023-02-18	2.4 0x09d3426bb8b17993ctb94a835eecd30202280b02de0c82eecc16c255ada2d668 2.4 0x0736f6aba4b7df4de4441dc45106ed4a483c2baed98ef34177e3c9ab6fc50e1e	89772 89772	685995519 685135285	€0.097362407	69772 084447600.4	€0.09/142/13		
2023-02-18	2.4 0x0/36f6aba4b/df4de4441dc45106ed4a483c2baed98ef341//e3c9ab6fc50e1e 2.4 0xea428ca1a2dd135213afd1b7d18793b93d2267645dd33c092adb59368052a2d5	89772	684374701	€0.097240315			Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA	
2023-02-18	2.4 0x15175b011b345d27206a4d298603c58b1cd8aebc632a4e01725a4b64336d68d5	89772	683755238	€0.097044447			approach	
2023-02-18	2.4 0xbcaae27991d984b64630c97a721a5c0423bd74d31008d3773d23a9a79fd32b51	89772	682977259	€0.096934030				
2023-02-18	1.31 0x2466f59baa7d5e4887999b3c9382c20a8e78df1a5c29fd184290dfbbf80c56ff	21848	682212597	€0.023564626	21848 679248595	€0.023462245	5	
2023-02-18	1.31 0x6feb0dcbbcaf801b42c430f8e8da35f3b70a131f220ab1ee685bd65f3063cd08	21848	679460325	€0.023469558			Transactions for requesting the key via blockchain (one line per	
2023-02-18	1.31 0xdf7d0e78a7179ca607062ce0acff85998e8b137f12aab8825b360aa52fe4321d	21848	678019336	€0.023419784			authority)	
2023-02-18	1.31 0x5190513ea5f391b4123eeed470a386b51cc9a1086e9f3dd5d63357202f1a4ee5	21848	677302122	€0.023395011	00070			
2023-02-18	1.32 0x447d010e6dc8afbca20a00259efd80a75a48b1302b361cce8aa5f1b96eb70b55	22072 22072	682129561 678613975	€0.023803328 €0.023680649	22072 67886735	€0.023689491		
2023-02-18	1.32 0x8b21c742732ed08d3f6c34c5e8489653967adf0d3b6c13fb393bcafd2573f143 1.32 0xb2beebee9b286981ff6caf0cd0312fd1199149fd7ef43f2bfcfe4e91ee357bb5	22072 22072	678613975 677480764	€0.023680649 €0.023641105			Transactions for key return (one line per authority)	
2023-02-18	1.32 UXDZDeeDee9D286981ffbCafUcGU312fd1199149fd7ef43f2Dfcfe4e91ee357Db5  1.32 0x91de9ddc5de0c50c14c6ec46d142c0e6f16205231390059c46db590ce11ba44c	22072	677245104	€0.023641105				
2020 02-10		22012	0240104	CU.UZUUZU0Z				