

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-05	-1	0x509398a1dce181cb213fc95774a63468f889669238498b7694257c677eadd	1692477	55	€ 0.00000014196653545605	1692477	57	€ 0.00000014716004583627	Contract creation		
2023-02-05	-1	0x631a930800198e29d5f1da9931949c722d4d823b5151bee8fc3a3798c3c51	1692477	59	€ 0.00000015232355621649				Contract creation	0x5f89c5b6379238De2845a2F9B836697814D6B0	€1,513.43
2023-02-05	-2	0xe77bd4cbe5968d0361ca36c0ae7c1ed5429f71b329c6dc3c64177181e1f69ed	67153	51	€ 0.0000000005	67153	51.33333333	€ 0.0000000005			
2023-02-05	-2	0x4fe2d737cc4d977506c78d63c32c57cd0f3be3217c11b7aa81208d988a7b72	67153	52	€ 0.0000000005				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-05	-2	0x0f32bf6d6d411482473d58219e13954026930d0c3da570f78f342465b386e2	67153	51	€ 0.0000000005						
2023-02-05	-3	0xb6b5e11ee419d9ff917ce9f5183c4e2d9ee859b53f6be61d63b466efcd029ed46	67153	55	€ 0.0000000006	67153	54.66666667	€ 0.0000000006			
2023-02-05	-3	0xd0f8594254c45fd057ae2f38dc3b730c1d4f823d2b241bd3aa78ef0f8d21ce	67153	55	€ 0.0000000006				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-05	-3	0xb59d99a15966625ccce7139bc172076cbb1b69aac091dca4dcaed521bb633508212	67153	54	€ 0.0000000006						
2023-02-05	1.2	0xdcc5e1d89fbcbbf17799df948dc8eeed436244471bffa15fe592f172ab840113	67533	50	€ 0.0000000005	67533	51.2	€ 0.0000000005			
2023-02-05	1.2	0xf063747099ce522e8627c3b86d96bcf911a6721d86e7b61070bf30b5c5ec36f	67533	50	€ 0.0000000005				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-05	1.2	0x221c1ada61f3a7f506c78d63c32c57cd0f3be3217c11b7aa81208d988a7b72	67533	51	€ 0.0000000005						
2023-02-05	1.2	0xd2f4c8f2e1f9a08074fb1fa96804daaf397cbf722040a61cd915048a8c9e9728	67533	52	€ 0.0000000005						
2023-02-05	1.2	0x73a4a4e34dc8385c733f9a32d64b3d9192e5cab2ba31b18ca4ba60a4e2b689f1	67533	53	€ 0.0000000005						
2023-02-05	0.1	0x0a111bd7aef8fbd00ca0a8eaf382b44f4c5f98a390409c08ecd2bc002806f1413	67755	52	€ 0.0000000005	67755	51.75	€ 0.0000000005			
2023-02-05	0.1	0xb2ab1b3c57f2456c7f8c2d2842ab9b9787d9827202463e95cbb6776191d40a	67755	51	€ 0.0000000005				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-05	0.1	0x6c2e82bbfd2c8e177b0a7971cb5ce4bb5e8dcf97d838471e758f5831f05fde	67755	52	€ 0.0000000005						
2023-02-05	0.1	0xacc1b4ca334cd2303c8b747778b8f8c290f91a8cab3c1d2f3da5435d6efb7b5	67755	52	€ 0.0000000005						
2023-02-05	0.2	0xb6e83214bcbdb2f710c702746d163d7ea6935e10f56b1d414032d378472bb8be	113680	54	€ 0.0000000009	113680	53.75	€ 0.0000000009			
2023-02-05	0.2	0xf8c6f97b9cb7d638843c3e7ab6a5ee53997cd74e1c7b75630505dd2ee3b0e	113680	53	€ 0.0000000009				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-05	0.2	0xf1c148dc068dff1f6190cc53700d53f059b5930881045bee4f2fbbbad14807	113680	54	€ 0.0000000009						
2023-02-05	0.2	0x4887c042cc83549d1cb01df9af340e3abbee09fa2ba0253981add15be151cb40	113680	54	€ 0.0000000009						
2023-02-05	0.3	0xbf3cbc0577e7cc0459eade5bbcb94213f10dd0f6d19fcd8e574fe130c2aa3e2	159693	51	€ 0.0000000012	159693	51	€ 0.0000000012			
2023-02-05	0.3	0xf4ae672cd34bee7bd6a08cd03d3d6e886cac9e056dbba07d8834bd0d6cb1c85a9	159693	51	€ 0.0000000012				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	0xf475b6896d45ea89935516eddf0fe0fa6c422ce1b149a362d35b166a45ff96	159693	52	€ 0.0000000013						
2023-02-05	0.3	0x3f45ab76346e8476a10db88169ad08bb81adcf88bf04a6ad695b923ddd19f75	159693	53	€ 0.0000000013						
2023-02-05	0.4	0xa73a91936c4571a9cdcc37b8a38147ad6ba2712b30c79e31fbf3626272e5e	67731	52	€ 0.0000000005	67731	51.75	€ 0.0000000005			
2023-02-05	0.4	0x5c877fd7f057ecaffe573d3f3c9033c2f6730b7b2773d6ffe3c4aeacd	67731	51	€ 0.0000000005				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	0x508dea2e6ca2819627468a4ee27e5bd55e2254ca1b10578d029da23e3ad8b1	67731	51	€ 0.0000000005						
2023-02-05	0.4	0x83e6023d9e5cab15ef8d31dd6b55ef821e798c870b2039ed0b85a738ee931	67731	53	€ 0.0000000005						
2023-02-05	0.5	0xb4f31c801ab20342b5b70ce5a6f492425a18a15e8854dcfe1ca175a6cb37e1c	67688	52	€ 0.0000000005	67688	51	€ 0.0000000005			
2023-02-05	0.5	0x9741c913f0a42e5e547e9841b9c0681c2b52ae94a897d3a0cbcc04e4c23cb	67688	51	€ 0.0000000005				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-05	0.5	0x12555f0b47b52ed3a6c8b6a5504f9a8065ae72a72c7218887e428b71a87dbd	67688	50	€ 0.0000000005						
2023-02-05	0.5	0x4dbacaeff19af50af341380e1bfe0d1a352d6f6811464e2f1c3eab39a0b03c4f	67688	51	€ 0.0000000005						
2023-02-05	2.4	0xe0663a4475007a572f3d9857e0ce0a5ecedd3c64c3ebd1394c596ac7e96c4a	89772	55	€ 0.0000000008	89772	55.4	€ 0.0000000008			
2023-02-05	2.4	0xd776347c3152e47fa299b9d27dea33b0f522356641027e6badfa25d00370fd	89772	54	€ 0.0000000007				Transactions for the storage of the IFS link. Action 2.4 of the MARTSIA approach		
2023-02-05	2.4	0xd0f345246e43f356f49e302000677c524daac0ee5136cb978073eb17ef5c627	89772	56	€ 0.0000000008						
2023-02-05	2.4	0x209b4d1acd5b14be77d1d00b42cf0b07de999144bb84fdd294c54e211aef0af1	89772	56	€ 0.0000000008						
2023-02-05	2.4	0x19339b05cd3da213519a2c2891e4c263db995758366b4e5242e280fda39d169	89772	56	€ 0.0000000008						
2023-02-05	1.31	0xd8a6676deff142271bacaaded860b29917ba457d3cbbdb98e6321d9ef620914b4	21848	54	€ 0.0000000002	21848	55	€ 0.0000000002			
2023-02-05	1.31	0xd6d414e183564a7d945de9950a029456f3192dfdd8f8ce135732708d28a88518	21848	56	€ 0.0000000002				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-05	1.31	0xf4cf65e136eebb02883a7ad69f6e35086758350e4d295ad9a6e9efbadf61e6f7	21848	55	€ 0.0000000002						
2023-02-05	1.31	0xd151950cc2043a1c76b01e53d99003a5a38d1085d99e1557a139cfcc8080ed5c3	21848	55	€ 0.0000000002						
2023-02-05	1.32	0xb24222a758783111acd94f6fda17af4c151c8fd3d8aebbb837ca0157a29e	22072	55	€ 0.0000000002	22072	56.25	€ 0.0000000002			
2023-02-05	1.32	0x06e3579c212ccae6a0f083e2e70552d121c50bd5a19a66bcd40e28d58f7d14f	22072	56	€ 0.0000000002				Transactions for key return (one line per authority)		
2023-02-05	1.32	0xf2d200038f541e52cae1c966a5380947a798774e082f0add764a18873ab5	22072	54	€ 0.0000000002						
2023-02-05	1.32	0x1a3c8767c10b77c211b5b741fabaf5cea593de48da78cef1b77eb000b6e7270	22072	60	€ 0.0000000002						
2023-02-06	-1	0xc0f44b76402abf06aa8af18da9d868c6b85f8db3a7d325b3500e469e61	1692477	2477	€ 0.000006345	1692477	2989.5	€ 0.00000765835195973432	Contract creation	0x45086be20d82b2f2f50183d0859bd5421f0D3A34	€1,513.61
2023-02-06	-1	0xb00bb7ce84ec5335cd4252a3c1e68cf7e02cdaa5551fdaa46219839017b8d2	1692477	3502	€ 0.000008971				Contract creation	0x8cf38d67c8d3DdaB613bd087C45Cfa6172796C35	
2023-02-06	-2	0x508f1e075039ea4afdb8339971df6d4495eac8eab3d1c52f11da9e35dd3cd47	67153	5048	€ 0.000000515	67153	4999	€ 0.000000508			
2023-02-06	-2	0x9726e822331aaea3f0f3ad4078f08d32cc69ce379b8c2c94f90a52c915e9bd	67153	5166	€ 0.000000525				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-06	-2	0xcce2ae3122c2c6f37f727cea352dbacff4680c068298cb0b83311fc709f23	67153	4783	€ 0.000000486						
2023-02-06	-3	0x6957ca13dd4e6916f39310db794c33e26a7996f739ea0f5e1f782e0ce25a5ae	67153	4198	€ 0.000000427	67153	4069	€ 0.000000414			
2023-02-06	-3	0xc7f93d5e3ed6af6b08a0695fec27a7642d07ff95d6d254fb113d6bef761ce	67153	3603	€ 0.000000366				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-06	-3	0x3a015fec5123e46de1fd86c3768c0cf83dc316413856d06e3ebca9d87b69818f	67153	4406	€ 0.000000448						
2023-02-06	1.2	0x3506ef2504b6920d8d83cd175669a5059f5cc5003324a8e5cfa92228ccce9d	67533	5762	€ 0.000000589	67533	9217.8	€ 0.000000942			
2023-02-06	1.2	0xf9281735f2302a6c4279fa758943fe0613e0d4381606d18e6ce700d70a8379ff	67533	5575	€ 0.000000570				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-06	1.2	0xd637da7e3c0a03420f6a3113f52b93af6deb6855094eabb181c84a21110de1ca	67533	5426	€ 0.000000555						
2023-02-06	1.2	0xb97a56cec1b6df1a76c4b1543704538a0d110c8aeb6aeca0b32a32bce08a085	67533	7085	€ 0.000000724						
2023-02-06	1.2	0xf6fbd3bee940b7cc4827e9089437423542643d304ab6a571b17f0c09e0611f	67533	22241	€ 0.000002273						
2023-02-06	0.1	0x2b48359cdbc97f6fa176f0f0ae7c5ebef3c6c8852c722f86b522ac03772ec	67755	20130	€ 0.000002064	67755	18922.25	€ 0.000001941			
2023-02-06	0.1	0x2814e881e33c353a653e8cc53b4dea22acfa7da06999506c5b72739b719328	67755	18943	€ 0.0000011943				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-06	0.1	0xad3e59435ff1b6909fb66a4f03f10e83ce526ee97f012b48a34516f80f8142e7	67755	18603	€ 0.000001908						
2023-02-06	0.1	0xaa3a3e9ba3d800dacdcdec9cb479905a0956b652435c6c9b0e46ffba91e25cf	67755	18013	€ 0.000001847						
2023-02-06	0.2	0x11849bbd05e8074d8dbea16d945bda7abb48d026a3e20c510786b2d8f9d9cf	113680	18075	€ 0.000003117	113680	27640.5	€ 0.000004756			
2023-02-06	0.2	0xa4f5760e885e0736cc0d1b2283f1153a0d2c26be39f33dc94584cd589203ef0	113680	23129	€ 0.000003980				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-06	0.2	0x9e41c83477477721cd594bd6751c5441cd025791fe87000b3cdcb197281d63c5	113680	35856	€ 0.000006170						
2023-02-06	0.2	0x4abec52d55eafba29a26f8e2bb07694265bae61b21952c3e0daaa18cd6f3	113680	33202	€ 0.000005765						
2023-02-06	0.3	0xb6c8d4f3b9beb036fc55649f1d436301725cccebaa6757248d22ed55ad6e326	159693	3248	€ 0.000000036	159693	34907.75	€ 0.000008438			
2023-02-06	0.3	0xf8a80be80c9c93a940c9c35d10dcbbdbf170071138279bb86e40d6e99eb7f	159693	33474	€ 0.000008091				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-06	0.3	0x24d012e95149e473349cf8c185dd596a801dd32f9f5e63635c6fbb203a0aada	159693	35329	€ 0.000008539						
2023-02-06	0.3	0x35064abe590494724a73e5bed470ca190ca09f0443638f9e756f9acdf1b1e	159693	37580	€ 0.000009284						
2023-02-06	0.4	0xee14b4f1044257215094635607fa6c64bb78bd59ec25de341c6997f31780153	67731	50896	€ 0.000005018	67731	131300	€ 0.000013461			
2023-02-06	0.4	0x7ae9774a48944e3ddcf54b9f65a431732308473d9d44c4246bb2b23b6a6c	67731	84083	€ 0.000008620				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-06	0.4	0x367da0857a840de16016cdcd2f498c6953afea7d959486305637f611a945d7c	67731	100691	€ 0						

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2023-02-06	2.4	0x956c5b17aa664028986979cccb5f2615af0b7da0158b89e2a33444b0b019f4fb	89772	2190456	€0.000297639				Transactions for the storage of the IFFS link. Action 2.4 of the MARTSIA approach		
2023-02-06	2.4	0x2e5f8b6ca8e485b55e2badc8f97b863b032a4dda5d6cd0831ca91db0e954b	89772	3563157	€0.000484161						
2023-02-06	2.4	0x3cd3c3997244596a3c2cf065bd1d041f06a525403c0c9607b8aaa463a55a039	89772	3576937	€0.000486033						
2023-02-06	1.31	0x0155d785579c14752078339100f0335955ffaf1ef630ec740ca142f976b5a0ee	21848	3176103	€0.000105032	21848	4254147.75	€0.000140682			
2023-02-06	1.31	0x22247cd5e0bb7a7d4871177b616f6dee15ae4b4baa5ef015a35c66b4e83	21848	3412312	€0.000112843				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-06	1.31	0x4e442761a6ce5996c82f53adac66ab610dbcf8fe71c57aa58060b27970d05a11	21848	5099752	€0.000168645						
2023-02-06	1.31	0xb8b69f96e7e65f4febed962e14bfae6cc8e0d5d0d5f56812ef5e50a1c151f	21848	5328424	€0.000176208						
2023-02-06	1.32	0x02efc511600a76bf0fd54a7d24469a5b6dd54fddc8b4d83a20e2a3c9eedcc62	22072	3386869	€0.000113150	22072	4181396.5	€0.000139694			
2023-02-06	1.32	0xd07b296cde875446c133f9ef8b67230f7830d5e3524e36c8559b15e89ddbd6d	22072	3244418	€0.000108391				Transactions for key return (one line per authority)		
2023-02-06	1.32	0x15fdd8447c48b77edeaf786c8db366de204ba16d54a90e51f151e9c3f231c4e2	22072	5429218	€0.000181381						
2023-02-06	1.32	0x8141bba2343976168e5b21d8c00b910ce52306b6bcacd02a5e2ad0c8c7f161	22072	4665081	€0.000155853						
2023-02-07	-1	0x272585a6550884d80a434c558c3f3b7d778162445e0e74156787f67fa0da6	1692477	97329664	€0.252730973	1692477	97333677.5	€0.2527413951504670000	Contract creation	0x9D5820d6fd84E0340428FA1B9Ea9E65E8976872	
2023-02-07	-1	0x6c2d317ecdca5f8bd5d889f7d5e6eaddf599c74a7f53bbf5d9202b069eaf93	1692477	97337691	€0.252751817				Contract creation	0x34d4AF331Cfe16a9af53F0078CE80ccc13ad322	€1,534.23
2023-02-07	-2	0xb8417bd72353b1b6e370dab8f96bf0f3ccc1b7e6c2e111d497254e2fbc6ba	67153	101024976	€0.010408416	67153	101133588.3	€0.010419606	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-07	-2	0x5550ef8b7d00c777821491cf5651e0b5dc907ab776ee0a015eb45844b3358c9	67153	101646001	€0.010472399						
2023-02-07	-2	0xc2a3a9eab3c91ca796aa211cf019462511ad544ca46a4289379195f213342f64	67153	100729788	€0.010378003						
2023-02-07	-3	0xdd6eaf1d5f85d877f725ae18914762cbda7757c5d806a779a63876e1492fda	67153	99313865	€0.010232124	67153	100065698.3	€0.010309583	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-07	-3	0x76e191292fe5c50da331372331b2d39931841b140a3c81100e4168b230ad912c	67153	102059418	€0.010329542						
2023-02-07	-3	0xc959ad727061a38c09aa78e178c7f74c85a32d781313684fb3445943396996	67153	100623812	€0.010367085						
2023-02-07	1.2	0xbf78eaa62979f74c0b5f96b2b1cb5ed15a69be826ecf958300ccbad219700	67533	10153615	€0.010520278	67533	102988891.6	€0.010670798			
2023-02-07	1.2	0x7e3d1cab67b5dc21bd23bc147352299a550d312ae01f7528bc0b0add332e38	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	0x5f5a86401b78358c40a2d93cb9b54b390e7c7d08a0f6a56f7bc5c35f3743	67533	103291122	€0.010702112						
2023-02-07	1.2	0x2d1cee34dec2d823cc73c4704cf1772be9fca31f0e0eb59416ac24236e1ea54	67533	104023398	€0.010777984						
2023-02-07	1.2	0xd9da73564755eb82f58d6a703dc4e994ad4831cd711153a900c3ad8f4d517e2	67533	103910681	€0.010766306						
2023-02-07	0.1	0x7ac9ec17ba85ec16d9207f68b503f35c18a0a4d7860c3ab7c2c826effb0d	67755	102719297	€0.010677851	67755	102307615	€0.010635056	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	0x6656f9e5d034448b00fd8d9f5d300a5bea9da90a5057d795cc7c3a8812a6eaf7a	67755	101919254	€0.010594685						
2023-02-07	0.1	0xabbb7e535aa0b44d52c9ba04449f381d15dbdf5ea153fa3e11692dfc2117417	67755	102456188	€0.010650500						
2023-02-07	0.1	0x5e751367d51914c02f39a5343411eb19cb17df24b4190754ce6d7f9a1bacb9a1	67755	102135721	€0.010617187						
2023-02-07	0.2	0x5e3850e274f2b33abb12984de8b63c515cae067efa1920880ad358f02a6f33	113680	101742337	€0.017450010	113680	101511321.3	€0.017704718	Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-07	0.2	0xb799da69a9cf691a85d121dd8558b2b25fd23d00f9a04cdddf4e4a3c9202	113680	102061530	€0.017800881						
2023-02-07	0.2	0xdddb0d704156ac75a1bec3ba9f02af181849b41feb54df5f114d40f42757a38	113680	101279950	€0.017664364						
2023-02-07	0.2	0xb9b6baad25844c31767d73376d0852871f7d9a38612e96f03e5603b3762af5f	113680	100961468	€0.017608817						
2023-02-07	0.3	0x6fe4e59e3e998327591db9e6be9f762d4aeaf75d13e136ad951a0a74caa421	159693	101255454	€0.024806663	159693	102875726	€0.025205149	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	0xf50f4098cccd85691944b866d63aad800d8b0b0f89c060e8995cd3f0be5f9f06	159693	103106317	€0.025261645						
2023-02-07	0.3	0xb61d55adb0de6bd8f8e16a6c423b6e22ac91b59fab2b11f1cc056608d76baf	159693	103814455	€0.025435143						
2023-02-07	0.3	0x1b60ba914843ba0705a73bb0bf526aac9c04970be73cb1a3d2d673950ffae69fd	159693	103224678	€0.025315145						
2023-02-07	0.4	0x2714a8e8ef851213ccbbe06093366b71e893926f6eb48954a426679c137681758	67731	104902111	€0.010910238	67731	107197544.8	€0.011139426	Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-07	0.4	0xb300b821099300946f9be32debe70fe0fb080f7f2e8041aa5b16693d9f36d	67731	107687099	€0.011902986						
2023-02-07	0.4	0x62b9ca7fb3396d3cc196e749134da91d54ed2239e13b58ff3aae5b4a0a3e8	67731	108545612	€0.011279510						
2023-02-07	0.4	0x7d6792dee8113f4d73c5ff2b03e93b667593276a7327310d2be80f014c3d80	67731	107565457	€0.011177657						
2023-02-07	0.5	0x55491963f1fa0f1c7000883db84ceb573c8094328b4c33a85015cd71889cfe72	67688	108498409	€0.011267447	67688	106789104.3	€0.011089937	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	0x06f6ec0815bb31c10827a3b699f6103e1432735f8a3c68810d168e035a5478e	67688	107365742	€0.011149821						
2023-02-07	0.5	0xf9c644f2e01bbae0a4d04c374923c3c317626bf72a0b3542c30be5ec393684	67688	106180362	€0.011026720						
2023-02-07	0.5	0x04ffe33a674dc4838ec9899abae82a2b67d6fd8a51838a7ad80850f3904ab48	67688	105111904	€0.010915762						
2023-02-07	2.4	0x94e8ceb66af47d0db02f2ce801321feb5b0de48cc8a84289e07298cc2947c1	89772	105899165	€0.014585587	89772	107503880	€0.014806606	Transactions for the storage of the IFFS link. Action 2.4 of the MARTSIA approach		
2023-02-07	2.4	0x155842a51b0368a943e2b62183eb9b48b7126bf5491857cd3cf87d37b023	89772	108741353	€0.014977044						
2023-02-07	2.4	0x752881b04ba7b7b346b803ad72ba8d12ceaa9f274afa98df5f32d4cc98e59b9	89772	109307081	€0.015054962						
2023-02-07	2.4	0x3f8930553b6410b9df89015829b7416c05748c7896995acc0b37ca4335f3612	89772	107032525	€0.014742062						
2023-02-07	2.4	0x5b9d2fdd38b6ce1ce23aa1f93ea2e49e1b54a388a6c1a9b1e4da09658d2f8b55	89772	106536546	€0.014673374						
2023-02-07	1.31	0xc0cd7165ba5f245f9eece199a48dc344d972514f6348013baed0f8ae78fb33af1	21848	10618183	€0.00359199	21848	104944307.5	€0.003517718	Transactions for requesting the key via blockchain (one line per authority)		
2023-02-07	1.31	0x5a80ca9b8b68e60ca497c5b2b3b5b4916782264581a9da357598c8bd009041a	21848	105135010	€0.003524111						
2023-02-07	1.31	0x75220f5d834ec1516e13c26722932be5665ab2c1ea9525f89a41d7e5785a40e75	21848	103998068	€0.003486000						
2023-02-07	1.31	0xb9914d026778ba8d5678331a83b06a5ebec00ceb74315ae1e583204949fb7b16	21848	104462339	€0.003501563						
2023-02-07	1.32	0x64a496b50b51a86fec2633aadf0583e830b9d3e1d4424eaa5e5ec9ae493b2820	22072	103650109	€0.003509958	22072	104071586	€0.003524231	Transactions for key return (one line per authority)		
2023-02-07	1.32	0x95590b7d9dc174a988dc0f529947ffa6a29c5e4ae58258f04e1df17bf3c343da	22072	104555649	€0.003540623						
2023-02-07	1.32	0x49587519a99f8cbcb14d786a171597195bfe8fa7c38aaf5c5388173c51d83e	22072	104719482	€0.003546171						
2023-02-07	1.32	0xb61f38c16bfe102b05249645f10d773ca2572c9874dd07bc74e1b040d191648b	22072	103361104	€0.003500171						
2023-02-08	-1	0xa1134c54aff381115d74db6da3b9c15957da785c750c8aa28cf0c8311c2e7f1	1692477	84712	€0.00023324	1692477	110487	€0.00029127354959957400	Contract creation	0x91eDfb106055229a076304A29e66A261C1e9E69E	€1,557.64
2023-02-08	-1	0x068d34c8c0e0c562707d33ba7f12bd0a0e2f56a7552245f636335afa94f5f3f	1692477	136262	€0.000359223				Contract creation	0xCe53506A1c9122DE8D6200B571b5d23c8A77776C	
2023-02-08	-2	0xb65866c227f821cdce8a43a2ea8070ff31080abe4091c5562f5b98141bad4f3fe	67153	122557	€0.000012819	67153	255492	€0.000026725	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-08	-2	0xb3c8eea2f21e964a52e1c1f0cb2f18118195036dbd9e56e92ffa0992a54e7d	67153	335321	€0.000035075						
2023-02-08	-2	0x477fd7e33344ee5db4ac911b15dc9c2746c1e03e784ec43556d5a9537520a9b	67153	308998	€0.000032279						
2023-02-08	-3	0x505080738caebfdd961094d3c2db4f469b9db98d2726ad047f49f38f2693500	67153	117382	€0.000012278	67153	110704	€0.000011580	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-08	-3	0x9079d9a16111a083494f5057e22fe64570c41aefc7112dbf740a14ea35f9cf	67153	112747	€0.000011773						
2023-02-08	-3	0x4f69425c87b95498ce06f6c28111ee07f0a312e9e84a9eacae27c33ae23	67153	101983	€0.000010667						
2023-02-08	1.2	0x42c15dc02c2a3177a79359d5d2c49e541c3a8964cb82e0d941c499b785c0e502	67533	339861	€0.000035751	67533	367160.8	€0.000038622			
2023-02-08	1.2	0x1a0be5d79e67b3ab34c855cca6703e0bf1d7004279f1baaf7306904d312d0c	67533	370151	€0.000038937				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-08	1.2	0x111c2b99a59e0bbe408520de0e1e8bcbf86ef46819126e1df1052f0520f48e	67533	377070	€0.000039665						
2023-02-08	1.2	0x96860ac54798892aba2d36cd211cd0c366d1b2e7711545a0c253607eea544b	67533	378831	€0.000039850						
2023-02-08	1.2	0x85e09474167603a29d20a476d2b1818dbcc55b3d9de3b2cb2d7e4278d0bc62	67533	369891	€0.000038910						
2023-02-08	0.1	0x51c9f6a98d49a6317984e506202601afdbfbb01cd01b32a2796c2b1e18b888	67755	438193	€0.000462246	67755	394122.25	€0.000041595	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-08	0.1	0x23791656d2fb08026374d41d824824f1dc931e4b4d47da12b7a978feb3d8df	67755	3							

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-08	0.3	0xf2a2b3f251901c787c35e3d24a635911c49335e48cbd1430e084d1cac926a302c	159693	585427	€0.000145622						
2023-02-08	0.4	0xd77e3d7cf01d5d008a88312287cd4af53701e57ea8a8d78b1e12a49d252b3a23	67731	600563	€0.000063360	67731	626589.5	€0.000066106			
2023-02-08	0.4	0xb9f7e78a2885afba10776bea112840883d1bfdbd8a27621cd78ae77230ef0b	67731	584853	€0.000061702				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-08	0.4	0xbdb9dcbfc7cee423c1e743e7b858d64b1026e72b46b139c28e3c49db8786143f	67731	610950	€0.000064456						
2023-02-08	0.4	0xc04253d38dbd63133fbcd6a3fbcd40011b3e9f18040a1d01b0ffac7a75a682e3757	67731	709992	€0.000074905						
2023-02-08	0.5	0xbab7410f6a109effcd29f864017230211dd25444a40478dc974291d9e90c8203	67688	3107701	€0.000327565	67688	607426.25	€0.000640469			
2023-02-08	0.5	0x588de5f2f1d965331a33338f24cee777b6d44dc0f2a25c385ef245935dd24a6	67688	7299447	€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	0x21f505ab4bc67798b573b251db0f68755ee064cb7172521b7cbd9f4e09f5b28	67688	7085076	€0.000747005						
2023-02-08	0.5	0xbfb8e28f9ecc3ca7e35ae25ee1af6cbbcf01410050692ba935cae73ee202415	67688	6860273	€0.000717609						
2023-02-08	2.4	0x9c7f8645254b90207a6a9aa7f2d03c540ae21e896aac54524c2cbe71626c013b6	89772	6796510	€0.00050373	89772	5951296	€0.000832184			
2023-02-08	2.4	0x4b3ced573086ae56da3296084da0e02341b67915fcd0ae16cd0eae16cd4eb7044	89772	6421451	€0.000897927				Transactions for the storage of the IFFS link. Action 2.4 of the MARTSIA approach		
2023-02-08	2.4	0x5073d390c969da4209d7cd9dc6cb3012b47b1a55c337d5b5e24ee242010032b73	89772	6120208	€0.000855804						
2023-02-08	2.4	0xc2602847b3af82c6a6e5913ab1586627d32bf198013424929b951e87fc2e9d9	89772	5648576	€0.000789854						
2023-02-08	2.4	0x192f87f9a419a13acd8e83f31419d287f1a33606c1ba7f6232a3cdf76a015e6	89772	4769735	€0.000669694						
2023-02-08	1.31	0x9dad5ce7c9e1bac01788ee97195152a54ebc9b2b7ca242a0bbc1d9334cfa	21832	5261456	€0.000178923	21832	5118587.5	€0.000174065			
2023-02-08	1.31	0x6d4ac227993cc8aac54d42ce23f182d6a855ac68dc0c6796bf5e7eefbb8e97c2	21832	5141340	€0.000174838				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-08	1.31	0x80b86eb7d0d5d09f5b87fee3a117396b38109c3d32b3c6d5766d17c3b979c839	21832	4876282	€0.000165825						
2023-02-08	1.31	0x61daad6f4f75a3e7f64421d8643550b4d27e069fcb67808fc9eb7774101a5751	21832	5195272	€0.000176672						
2023-02-08	1.32	0x95c3af937fe2007a7c8aa88d5a2dd2ba2b7d6edf85d35082648b2a3c745640	22056	5148523	€0.000176879	22056	5442390.75	€0.000186975			
2023-02-08	1.32	0x9261ad9527db2fb9ce72e6b15a8eae8f3d8aba397559446b3fa0614a2766	22056	5100991	€0.000175246				Transactions for key return (one line per authority)		
2023-02-08	1.32	0x7b059901af38d2942a5a36390e33a6fb52f9db2e7560dcae0b5012eeddcbee	22056	5413451	€0.000185981						
2023-02-08	1.32	0x46835665103f678990b72001688ac02d76955df3c85a2cb76b77042c5d52ea9a	22056	6106598	€0.000209794						
2023-02-09	-1	0xf2a401d19eb37926151a5a5c1c3125f07ee51693c87509e64349cd432037e	1692477	9429644	€0.024259649	1692477	11143660	€0.0268629896470610000	Contract creation	0xA6A3088c6c28Ed78FF436264FD3522aF3a1A85	€1,520.08
2023-02-09	-1	0x0937c1032eab1f1a074db0500f0e43340ad2163e2650a1379055cb39b80841	1692477	12857676	€0.033078949				Contract creation	0x79014FB8bb338B140F11f750Bc2c7136B4AEE8b3	
2023-02-09	-2	0xd48b06212aa4f753c8504025aa4ac3e189b67e6f7a5de932789c832576731e87	67153	7014968	€0.000716073	67153	6679257.667	€0.000681805	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-09	-2	0x47fcb9adcb0b680f687464ca3a36fb1b1a9243b9821443414b2441aa7ec98	67153	6729434	€0.000689627						
2023-02-09	-2	0x27f0d95c5aabb4ba429372926b79a2e55e3caeebd030db008894c759e1b5a0	67153	6293371	€0.000642431						
2023-02-09	-3	0xdab7831f1acd8b17d9944e205547e2f3df2f44e725f0da9b884c4ae1ec3aa	67153	12620077	€0.01288231	67153	12655380.67	€0.0001291835	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-09	-3	0xb693317b88a551bcb0fdb3ad991600fb4cd38994575e082595d212d700705aa10	67153	12804111	€0.01307017						
2023-02-09	-3	0x3966d2c304ed0bf0b25fa8d76d5290843d2e7d0b098c5bda7529889727917f	67153	12541954	€0.01280257						
2023-02-09	1.2	0xb67a091bcb5e08071a841215f1ba9ff8fa4fb4c54f4b7c9f186b9f1e947e52a	67533	7400859	€0.000759739	67533	6298805.8	€0.000646607			
2023-02-09	1.2	0x1384723ceeeee2807dcdea0044a88bb0a58e3fc0652b6a58ed5bb0bb2c6b670	67533	5843007	€0.000599817				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-09	1.2	0x54d645f7c109aeef185d3782777f1f66f74cecd6bdeed1fd0017a930b47450	67533	5937453	€0.000609513						
2023-02-09	1.2	0xcce897f6f51bdd75cd0f53a45b9807c785a0befebc4ff93a3bac056db013b2f80e2	67533	6101947	€0.000626399						
2023-02-09	1.2	0x21192f75b76db1571206283ac114c8f0a5868c43e3c04d3286c02dbbddd0	67533	6210763	€0.000637569						
2023-02-09	0.1	0x2dae85a6b5d461af345ca5a0f3112b18f6f93ac09112fcb11838403a05da046e	67755	4849807	€0.000499496	67755	4725260.75	€0.000486669			
2023-02-09	0.1	0x4a016bbfdd14c7abae26a089da47be8e2b38fac18b7538156b21f0c5a20d382	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	0x7b7b996e7f16291b163bb649956140c20fac102d42230557123ae1d6c5477c0b	67755	4611835	€0.000474584						
2023-02-09	0.1	0xc4cb039a0a766a7f5f71292aba621ae857f73a2b06505b9206939a38cf9f050	67755	4413732	€0.000454519						
2023-02-09	0.2	0x0922c23b00e69d4d42f8abff396e5874c7f93e5aa5ca15071a5d23f6c2d086	113680	4088009	€0.000706414	113680	3765896	€0.000650757	Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-09	0.2	0xc8c84e74861eb59530348444b30247401051709fcd13f79734438f75891463b	113680	3853485	€0.000665893						
2023-02-09	0.2	0x995191ac5d18f130331cd747f6ae088a40bb9b8b99dcca48f53a540a143d3d2	113680	3656522	€0.000631857						
2023-02-09	0.2	0xe60a179e5f8d4e9996e396f6f5b39f5f58a9ccc3fe3a3049a260795fae404	113680	3465568	€0.000598589						
2023-02-09	0.3	0x2bb973b05bdc713d4071b13db0bcb02a0ea6e2cf55738c593f0699c3e5325	159693	3292038	€0.000808111	159693	3247808.75	€0.000788393			
2023-02-09	0.3	0x51dd56bca09d7ee5e06dc8bcb1aef638eb94af025111b814418fb38f5a7b0bf7	159693	3297104	€0.000800359				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-09	0.3	0x53149a66c256966dc963872cd3732d5a5effaddcfb340db4bf891e97893909f	159693	3213799	€0.000780137						
2023-02-09	0.3	0x169eb2a0cf7ee48019b3ac80edf4bbdb4681590fa51759234b6be1203493ca48	159693	351294	€0.000764964						
2023-02-09	0.4	0x1203aeed21d58cfca238d13c6409d10aea7f0e2b8dd30ed4ee6a7be101d47378	67731	3000701	€0.000389492	67731	2939604.5	€0.000302652			
2023-02-09	0.4	0xc3ee41c3fcoe612c9667ee4579d6204df4d12acd29cd56c7b8441784a81790	67731	2975801	€0.000363878				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-09	0.4	0xc1290794cc757f64214dc5301dbffa526d07af725bbb3d74adeac115633725	67731	2928551	€0.000301513						
2023-02-09	0.4	0x9b849ba789c98c35c407ab7628424e5637164e18d3398fea333b5bd34161e0a	67731	2853365	€0.000293773						
2023-02-09	0.5	0xb6c0da2ae005a66d35607b82e4e3441cbfda6ae4567f5cd493ad2760379e33	67688	2832486	€0.000291438	67688	2833637.5	€0.000291556			
2023-02-09	0.5	0xa0e7e42325a700f0f7f014cd1a659722a70ac2d856a4a892053a905ceb07ec9	67688	2836434	€0.000291844				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-09	0.5	0x7446f3358f1982fc022b8f93034029f8a90eb224f2b5b0a47ecc755e9706a5	67688	2841758	€0.000292392						
2023-02-09	0.5	0xd60ad9a80ad2058094ca974f66f7e5f530031aac91cf03c3088e3b881c26	67688	2823872	€0.000290552						
2023-02-09	2.4	0x2ec9eb4bd12ec1e114d577e879883d1c81f29b305d2832e72a1fa0390589d0505	89772	2785651	€0.000380132	89772	2759303.6	€0.000376536			
2023-02-09	2.4	0xd60addc171992a8e5285fac10023621a40c2b726062d59a1ebddedf3c6cae11	89772	2770875	€0.000378115				Transactions for the storage of the IFFS link. Action 2.4 of the MARTSIA approach		
2023-02-09	2.4	0xb6493365077f1f141b953e358b53c3514ae3396a03cd6c869e0f5b68caab7e05	89772	2747285	€0.000374896						
2023-02-09	2.4	0x3476a2742647d3e399d388ef97604092e98f3e20e7913b340623ee5f0f10be2e	89772	2747598	€0.000374939						
2023-02-09	2.4	0x38083e24bcbdc054e0302ba4e3a5810cbe8dbd3cd98575de3f23b708e98b9e8	89772	2745109	€0.000374599						
2023-02-09	1.31	0xc0cd435d4306fa0804e35573774f68dcf5d21af31af37af59032e7174b5e9	21848	2699577	€0.000089655	21848	2685357	€0.000089183	Transactions for requesting the key via blockchain (one line per authority)		
2023-02-09	1.31	0x9065bccc95a66530cc55c5744a29114e433d8dd99004cb2c4132fe87554faf	21848	2691247	€0.000089378						
2023-02-09	1.31	0x3dad293895deac2a0a3008bedb2d1bdf0dbab8e936d69eaf1b87e408f58854	21848	2678903	€0.000088968						
2023-02-09	1.31	0x90495361967c9aeb8b5c33c0ca9e8086cf1fb8451aa8449272c1d80f7451a1	21848	2671701	€0.000088729						
2023-02-09	1.32	0xddf56753677c095e9116237977c3061ecccac40a9b2a91e49157c7640ba0969	22072	2694186	€0.000090393	22072	2677743.25	€0.000089842			
2023-02-09	1.32	0x998359c0ce2c048c77006ec9a21b2e06d3f3a1cf318034fbcb3cf0388dd89	22072	2678781	€0.000089876				Transactions for key return (one line per authority)		
2023-02-09	1.32	0xeaa04879504b8ac022441cbf2d23bd2aee6df1c2ba26abe5e602121098a426f	22072	2669595	€0.000089568						
2023-02-09	1.32	0xe8ad88234bcbf96cd74a81bf2ef6d320548743f0deae67c61f53b7312500e0d	22072	2668411	€0.000089528						
2023-02-10	-1	0xbfa65f0dbd8e918bc39a40c57342ad5f9f92deb4e906f113eb2b26d6e281e56	1692477	5267055	€0.012884116	1692477	5267393	€0.01288494325233690000	Contract creation	0xA501Bcac8026310896295263CB0751381667A899	€1,445.32
2023-02-10	-1	0x7c3945fb4e4684f528f85e8c60252554c9e3d8d11e9f9ecf21be4597bd2d0ac	1692477	5267731	€0.012885700				Contract creation	0x34E15cfAe586546A3edeF536C7d2C62D80c318	
2023-02-10	-2	0xbaf7d55d0136d210946e1ad828f4dc3e8319ca358adbf730f10d7b6e8fe43e	67153	5266825	€0.000511185	67153	5266772.667	€0.000511180	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-10	-2	0xfed6cc7963f28b2cc3018a309dc6a4c219159a36f798b13bd3d2376609dbf60	67153	5266820	€0.000511185						
2023-02-10	-2	0xe25db1a									

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-10	0.1	0xb82b6328ee47a801a4498641080e794e2a9a7e135271f00c714819737171b9a	67755	5266403	€0.000515729	67755	5266427.5	€0.000515729	Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.1	0xb16bad621630bc3a0822c4d7c60a7a53440b2d0de59db5e5d1b3ef3d7cd31	67755	5266457	€0.000515732						
2023-02-10	0.1	0xc33ae890f4da67044794d7cad4eb71830674a09b86773f2c4febdc0c17cc39187	67755	5266445	€0.000515731						
2023-02-10	0.1	0x782183b8d168910c8b9f493ae5b60ed2650136c045462a5256949e3f8c8bca0c9	67755	5266405	€0.000515727				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	0xd93e280a0449138464a568ee0c1d87c8ae47b9c9cab773b5ee957126aa2c9f03	113680	5266318	€0.000865277	113680	5266311.5	€0.000865276			
2023-02-10	0.2	0x74cccb1b518641f7cb67de4dc3d9f3745d90649c1aef9d4fadd7e5d32d970944	113680	5266330	€0.000865279						
2023-02-10	0.2	0xdfda025807f554286e7faba3c50d4816d16d53acabdd9e0bca6fbfd0377efeed6	113680	5266297	€0.000865274				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.2	0x732d0a0b43340bd0b28166c1cf5d4e6f48717ba164363ebc2bed5cb7b547caa	113680	5266301	€0.000865274						
2023-02-10	0.3	0xacc9e3ebcf860b5e33ca040b918c0e7cfd943b88dd922d0c2327d35a20893d64	159693	5266286	€0.001215498	159693	5266305	€0.001215503			
2023-02-10	0.3	0xb1b125305a75c0e8d0f51d1450fff9a61e0d0b82c7d80dbbe2b5021b7971e1fd	159693	5266288	€0.001215499				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.3	0x0a1145a56c2a0453ea50295cd16fb1c398ee187a55b8ef6128612a4786f5927c	159693	5266310	€0.001215504						
2023-02-10	0.3	0xcxf7b9ede7ede41507b54b0da1bb738d2c8161316e88f367a5de1de68e5769e3e	159693	5266336	€0.001215510						
2023-02-10	0.4	0x698a724e07eadc98f57dae51832ba370e1bda67a56e46b1ef0aaa15a0c1516b7e	67731	5266320	€0.000515536	67731	5266339.5	€0.000515538	Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.4	0xb47caf208f1340201ac9a3f763c45313fabbb127d31a29448515b09abee77c	67731	5266341	€0.000515538						
2023-02-10	0.4	0x09434873cfd82558a4e506d73b348146580a205096363468c9688b07712257e	67731	5266331	€0.000515537						
2023-02-10	0.4	0xb6be8f6313429b17e5a6293cf898ec77244474c5f4efda9ebec710e4cb24cb55	67731	5266366	€0.000515540				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-10	0.5	0xd334268001c301722835fd5143ae97c0e959475166650938a013a01a7b30f2c15f	67688	5266335	€0.000515520	67688	5266458.5	€0.000515222			
2023-02-10	0.5	0xb48f26d258db0f092c7f361551777d57844e640096869106762d55d95a4d0b	67688	5266437	€0.000515520						
2023-02-10	0.5	0x1179b375101ee417928a2d37031a06daf4562147b98e2ef0b29aa4c237b063	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	0x71d9a57927a6ab4e464b2b2e1e04aed239e3b2ad37bbca4ced4666b6f3f81d9	67688	5266564	€0.000515232						
2023-02-10	2.4	0x4d6f5846e792397ed2b134e227550cf39967350ae0993182f1ceed08ba61896	89772	5266682	€0.000683348	89772	5266682.2	€0.000683348			
2023-02-10	2.4	0xa521c12128badc19b516edef1a32a970a0b29a7bcb1a26999047125b3bc634d	89772	5266800	€0.000683363				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-10	2.4	0x4e020c9799ab07566ba6cac9c81768bd3ade3ba1a20b8cae6f10838580233589	89772	5266717	€0.000683353						
2023-02-10	2.4	0x99424da3167f12d7a182a2e4877bb147f0105a31b7799ba20c4691dada9988	89772	5266647	€0.000683344						
2023-02-10	2.4	0xb9b11bb577c41145ac06053fa300be30740717488d9380d06d0cd6046bc020	89772	5266565	€0.000683333				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-10	1.31	0xa4c552c78c73179ba460aa82b7ad6da8001c1f9e21b13d29dfb3aa5bdc58fafe	21832	5266581	€0.000166183	21832	5266595.75	€0.000166183			
2023-02-10	1.31	0xd9d2d099cbb4b2ea1408df070050a318cd8b86907d505d9794cc32109ff710b1	21832	5266534	€0.000166181						
2023-02-10	1.31	0xwac3b02cca9cadccdbdd04d933c73159f0c4884838fd4428c8bdb239ed9079	21832	5266618	€0.000166184				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-10	1.31	0x088c2e806284775ea0e64ec444fade5fae0d6013efb459b210442702458b801	21832	5266650	€0.000166185						
2023-02-10	1.32	0xw7c6bd2286127656c5238d854b2ea4e960b7f6ba6da03887c020bf526030d2	22056	5266520	€0.000167886	22056	5266589	€0.000167888			
2023-02-10	1.32	0xdff7b3b500d296303b949a190cfa275e6df0500c0c8d101708669c17072642f	22056	5266583	€0.000167888				Transactions for key return (one line per authority)		
2023-02-10	1.32	0xaz2fb2b9ffe2cc853cf1f681d5f2cf2ca30b144a16b83fb06453b234748e1e8	22056	5266643	€0.000167890						
2023-02-10	1.32	0x4d5178b1d3ca9e4184c35d5dc964db4be79a247c834fc0a771b808ecfcd08	22056	5266610	€0.000167889						
2023-02-11	-1	0x08644a4ab065d744c8a5ba201e7b07265019ebbb0df0e26403adff97d5221de	1692477	99997445	€0.240934870	1692477	99997446	€0.2409348720862030000	Contract creation	0x6D5B03A986442f9344C54826874D04A4685a055	€1,423.60
2023-02-11	-1	0xe8e7326db9dcbb44d13df294c74e1f2a1216c5684eed222ada0edcedde492	1692477	99997447	€0.240934874				Contract creation	0x7DF351501a4Fc9759347eF59A493881fddC1D396F	
2023-02-11	-2	0x46c3500041ab9bcc8bcb3d3fa87f627fb6cee1356e1e047ef6349d107af312	67153	99997445	€0.009559657	67153	99997444.67	€0.009559657	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-11	-2	0x4cf6534cccd56dc786ac178f9628f2d07a3d2b07fa76cd91332a5f85bc78bc277	67153	99997445	€0.009559657						
2023-02-11	-2	0xazca96d2ff75e705e141181584d5d1f1bc78129c7cdf980d47317672aa4f09	67153	99997444	€0.009559657						
2023-02-11	-3	0xd0c451795110e20892e993984bdcab87f35afe37de47082693b1f5c8070cfef	67153	99997447	€0.009559657	67153	99997446.67	€0.009559657	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-11	-3	0xfef95ae505adc8f8fd281d2c77e5521494e8f9a78b19476dfb0aa7319fd09a30	67153	99997447	€0.009559657						
2023-02-11	-3	0xbcf3a3e41d144727f5a46dcf36838f5eaaef47401d30b262d5185650c6ee431	67153	99997446	€0.009559657						
2023-02-11	1.2	0xd297b36dfdb4145003d2784c3aef6b15d81fad209a0710260c8587743277e	67533	99997443	€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	1.2	0xcab5fcb9cc9eb8eb8d12da0c46a305b0f34b484c61da4ba7eb669959e62536470	67533	99997444	€0.009613752						
2023-02-11	1.2	0x262f27dc6798039d0f13e138eb7c2b999e93348cc73d2bce83b9a6d694ca64e	67533	99997445	€0.009613752						
2023-02-11	1.2	0x0d025ccd2c1890298a6557d07456cd8f1fb9049b90418f3253249b1c2c1bd	67533	99997445	€0.009613752				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-11	1.2	0xae9263dc563545961deb7bb72e821187dcb2d0a0c83be94a886f2247472eb	67533	99997444	€0.009613752						
2023-02-11	0.1	0xe710e49c768e96865b1639c94292659bdf1034e8bbae8833f118163224b1794	67755	99997445	€0.009645355	67755	99997445	€0.009645355			
2023-02-11	0.1	0xb9b43c59984c61011c4320ad7cd93b9d3b3796d81d3b4838f87e769444d0c	67755	99997445	€0.009645355				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.1	0xd2a1de17f05dad7f194dc08ae1840f37b419af0df477e9cc151aee3374d079e	67755	99997445	€0.009645355						
2023-02-11	0.1	0xb7bce4b83ba42852348f130833eb13d80b2286a33b236a10d6b4db0e2cf4220	67755	99997445	€0.009645355						
2023-02-11	0.2	0x305478ffada89cb34391c01091d2d77d236db8b3e3ca26f96c32a2b963c48	113680	99997444	€0.016183071	113680	99997443.75	€0.016183071	Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.2	0xb6c3cdf88de4a68da663fd20250057e8f46f623c3f09f7383da18c27bfc5a	113680	99997443	€0.016183071						
2023-02-11	0.2	0x906103b93cae6d19373bca133d1935f278e6404ade807cac3c78b7e58ffa49	113680	99997444	€0.016183071						
2023-02-11	0.2	0x2e9c005082c640534b1a9c6ab584ade0be9b5df9c87dcba7e1d4805d59413012	113680	99997444	€0.016183071				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.3	0xb68c52f2328b42d9fd97e89b00535f04e14a05139f8912310af958859adfff	159693	99997444	€0.022733314	159693	99997443.25	€0.022733314			
2023-02-11	0.3	0x5596da4234eb0c69daa40c546d515996370825265fd65416f29e26ed601fa2	159693	99997443	€0.022733314						
2023-02-11	0.3	0xabaa7dcbfa99d6a9b6f6e8c325e67c592dc272c84e97c59e65911b1465121271	159693	99997443	€0.022733314				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.3	0xb1ed158982b4b4c1ff01c0e2a73e63d1c10d836a67354c5905a4e61eac8a032f98	159693	99997443	€0.022733314						
2023-02-11	0.4	0x1a415f8489baa6ebc878f9ee50b9687ba0332edbd7e98dc208ffdd2db356a0e5	67731	99997444	€0.009641939	67731	99997444.5	€0.009641939			
2023-02-11	0.4	0xf801d393cd2ddaf00af0a22f85c24f3caa02997d79a7d98b4aee44591703a3	67731	99997445	€0.009641939				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.4	0xb8a8c7ab4b268094de73b05702c000752bcbdd6e4a4f251fe4271cdf1a3f8d30	67731	99997445	€0.009641939						
2023-02-11	0.4	0x10997936b0c45f681bd7c83f865961719f0108a2d8c8ebc18d628fc1ef5cd	67731	99997445	€0.009641939						
2023-02-11	0.5	0xacc0968c07a630112a3bb83c5cd0bb228ea01427b28cae2ad2dd7dec011bf1bd	67688	99997446	€0.009635818	67688	99997443.75	€0.009635818	Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-11	0.5	0x28b6c35e37fe309fb27679d79b8bae28c2362bbebaec4d484c47b080ba731	67688	99997446	€0.009635818						
2023-02-11	0.5	0x696447b577f104960209850bf46aa5903a5e7249e70226b86c264beaf899081	67688	99997446	€0.009635818						
2023-02-11	0.5	0x829c8fb858473a24ad6d78cd281f70b983b3577f772aeaf85745ab5985338b	67688	9							

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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	0xc01460ea58833a22e4fb1b0a49a9ae9745cee4d4d9a4680f142695af9a23ece	67153	74887774	€0.007259524	67153	74811465.33	€0.007252127	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-12	-2	0xc0b9c73ae862a2af3600b6ff4a6b21b7622b61d5ccad7b90c743284b1e03db2a	67153	74761493	€0.007247283						
2023-02-12	-2	0xafc2a0a06f53711618158f0c1affeaa843060efbaa9127a5d1ea27183feca4	67153	74785129	€0.007249574						
2023-02-12	-3	0x5d79853ec06717a55531a095f939509f05e880f6ae1db035daa6f1374f615af	67153	75780703	€0.0073404684	67153	75628248	€0.007331305	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-12	-3	0xdexb6eb4bb52baaa4307d3bf5133c7c5d21b9d449ac1178afa043c5126316188d	67153	75530445	€0.007321824						
2023-02-12	-3	0x6e3b434bae34c9618f70d184a4b4ccf323a93ee285c585ecce723001d50d2	67153	75557396	€0.00732015002						
2023-02-12	1.2	0x809ac928630747b0fe161728188054e82fa5842bc1c0187ed92ea9468754a01	67533	74756230	€0.007287780	67533	74649624.6	€0.007277388			
2023-02-12	1.2	0x239f0ccca28c6087909e9e182680cf32033560eadb67786f2cdd1fd0a2b9509	67533	74839102	€0.007295859						
2023-02-12	1.2	0x2098b315c0304c44cbe8de39f5d5d81d3b2c507c171bab53e87e769459f19b	67533	74746947	€0.007286875						
2023-02-12	1.2	0x144bf84b36c44b964385258e8183fc7c90e58c50c58f5131b89d1b157055a6b	67533	74466859	€0.007259570						
2023-02-12	1.2	0x5742091db77c498e5c06fd321c9cf185601c8017810cxb942b994078cb1d8	67533	74438985	€0.007256853						
2023-02-12	0.1	0x960d9ba42ba6a58e05cd5a1b6e15ab2fd58a19ca3a67012523f6d49a2cf8794	67755	74147205	€0.007252170	67755	74073314.25	€0.007244943			
2023-02-12	0.1	0x282c55ed6d3303bf099fa2da454016429ebc37a6e16e8568c2e54af8cf692c1	67755	74064722	€0.007244102						
2023-02-12	0.1	0x388c737ee9844250c385fd112d60ddda88ca4732bfdbdc2817c16ca2820dd6b1c	67755	73994494	€0.007237234						
2023-02-12	0.1	0xac67c79cd1941c49c7b1f7f1902b8eb48aab7184d7264bf38db00416bce185	67755	74068836	€0.007246265						
2023-02-12	0.2	0x511a48c0f09954205a24faec21ea1fb17173252dc8676b75811d1959dc38f89	113680	74389831	€0.012207577	113680	74217268.5	€0.012179259			
2023-02-12	0.2	0x73790dd05e26334ae0391db6403666d25871b487c127c5370be2eb9d683a665	113680	74280763	€0.012189679						
2023-02-12	0.2	0x285a3c7f56482603a3c421bc94c9beeb1e8005860fcbee7508994ee0933a37	113680	74157267	€0.012169412						
2023-02-12	0.2	0x7a0d132db81d44bb62d6fe69645d97c8928485271128115d0eaa1683a2d5fd	113680	74041213	€0.012150368						
2023-02-12	0.3	0xd9da4062a53325cfadd01fb51a42f91a15bb6713a7d3b6a27e6d5921260d8cd41	159693	74047431	€0.017069771	159693	73921735	€0.017040795			
2023-02-12	0.3	0x6e9d4b68da55e68e58ec749c8bdf029cc491600eaf2039e9c3fefa6aeafabbe	159693	73969447	€0.017051794						
2023-02-12	0.3	0x31cd7a1e1a09974c1bc034c4bfeac37dea9d7bf1727bbba7730d405a73b0	159693	73883721	€0.017032032						
2023-02-12	0.3	0x6e941a779983884cd295fc04b5c56d07f7e9a6ffdbec39688b7f001e1296b	159693	73786341	€0.017009584						
2023-02-12	0.4	0xb5e0bd0b138ea4ada4e17195f50e1e9fe154e444969446828a0f1b5d19530	67731	73665815	€0.007202534	67731	73608513.25	€0.007196931			
2023-02-12	0.4	0x308cf72d5fd0a06656f8a3af6259acd7d310d54d8d50052de44b6b6ba2218	67731	73649941	€0.007200962						
2023-02-12	0.4	0x52adff5b3a36be3d890f2df13bae8193bb7cf19563d296341868df8452391f	67731	73571978	€0.007193359						
2023-02-12	0.4	0xd2d287bc1a62aae8253f151565cd052a48e6a53d1ee7f3c859d4023293e9d729	67731	73546319	€0.007190051						
2023-02-12	0.5	0xb6fa75ba0060c3a61f470c51ed9464b9f7027a560f8d291a9ff92ba52799396	67688	73531407	€0.007184828	67688	73542785	€0.007185940			
2023-02-12	0.5	0x1d8d17820f36fc12f5ae8133aa90ada92ecb7089726b033387ff0ad5245a0e	67688	73517228	€0.007183443						
2023-02-12	0.5	0xae43f0abdf783cf5ff5d532ee95c2191bde0d881237715553cf32aa06c39707	67688	73565637	€0.007187284						
2023-02-12	0.5	0xddac179f23cb747d3b7a5500e7c0ebf8c69955fe966d09a91708a5878b9736	67688	73565968	€0.007188205						
2023-02-12	2.4	0xb53ffc4bee7381d1a126ad18c95aeef221ba5b88ca0b4d2631d3725a9dc	89772	73544433	€0.009530650	89772	73485682	€0.009523037			
2023-02-12	2.4	0x4fe56084e26b3d05d83a6bb3c73c1301cfa58f718e4ac7ebbb06ec0cfe19b62	89772	73516346	€0.009527101						
2023-02-12	2.4	0x956bf886f7d0bf51142cccf74858b1ab4e05f6c5f05a3c0b6eb33ce5713c26d6	89772	73472790	€0.009521366						
2023-02-12	2.4	0xc548b47a5c197771efc0eaf62cee44b399a1d92054cd3c8d1e6722520be6f32c4	89772	73449894	€0.009518399						
2023-02-12	2.4	0x958f295e7ba5d455f65c5f949a139e490a3b99d9db54f29e9a17b2f822e2618	89772	73444947	€0.009517758						
2023-02-12	1.31	0xb41f1d4235bce6d616e6c86d8840c613a1d28f8eefc3f992b1937b00674871	21832	73390047	€0.002312890	21832	73357525	€0.002311905			
2023-02-12	1.31	0xf0df9f88ba0777283d924d7f5cd87505569bcb35d76c8ae4259b10e2355b6fc94	21832	73356848	€0.002311834						
2023-02-12	1.31	0xdcd7aa43a374ec341521fc7b00bfff31071ed7046edaad95b3f5535d6fa8b3	21832	73355656	€0.002311846						
2023-02-12	1.31	0xd8aaf00280cd0d51c803c28425d681cec0c370e7650a9203c8598de30d2910c2	21832	73275459	€0.002310961						
2023-02-12	1.32	0x29c9e2e3b9055ae3a08bd0a689600f02c18d11a7b3a40dc091756f0e106929	22056	73381258	€0.002336381	22056	73344871.75	€0.002335223			
2023-02-12	1.32	0x4d4d0ef16efbf9698cdab19d8c71799f251782fa875df27947c727c591d8	22056	73341107	€0.002335103						
2023-02-12	1.32	0x10d62319a17da0ce1c04cd786190aac4618598f6350ab42c586a54e8fbcc22	22056	73337712	€0.002334995						
2023-02-12	1.32	0x00b06a6e528efbc97d070c41304d8015508d119a33cba8f702297d9f573888	22056	73319410	€0.002334412						
2023-02-13	-1	0x12d3f32d2073d38c627420e57ddaf23ac99f00a649b65fa86c5b994242942	1692477	2566457520	€6.189402581	1692477	1980501964	€4.7781434188224000000	Contract creation	0x7db53111f8EDE819795F8c1EfabfAd23bb48C80	€1,425.48
2023-02-13	-1	0xb61657e5f0e68271daa14a475ac9b27530c21cd250ec56a19a023c82722574	1692477	1395546407	€3.36684256				Contract creation	0xd36628479ce8B4F51742076507B78CCFa276B2	
2023-02-13	-2	0xe82f844e2f102c259646b9ba1468c4300dde83ac703e6b6993b30e77aca348	67153	2798250758	€0.267863401	67153	3425373259	€0.327894740	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-13	-2	0xb9c298f2eba68f5263b927d2d2534aa666b6b5c866ab544630bddd5e0f56	67153	2766341272	€0.264808071						
2023-02-13	-2	0xcce105856dceb6d0f9b9bc4ee9fb28176303a210671dd4c67ba85ba3fde8bc5	67153	4711525947	€0.451012039						
2023-02-13	-3	0xc0dd32c1b381dc02b82d1d953ee2025fd41eae13a15790bcbd5e3610284bf7f	67153	1686061917	€0.161393170	67153	1970538684	€0.188630325	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-13	-3	0x7c57f7d8d5e89a9ff6a3c2e620954ea13d994a82191bf64a867a6bb5859e6903	67153	2189935699	€0.209632161						
2023-02-13	-3	0xb6e65aaf9bb8bc381cd330cd58dc5521c407196e229f5edffcf025f45cd32b9	67153	2035618436	€0.194860101						
2023-02-13	1.2	0xb8b8f0c62e048d46a499d84fc07460050ed9d0fad24d4c3e4f0de7af4966b2da	67533	4692324330	€0.451715709	67533	6348141511	€0.611116163			
2023-02-13	1.2	0xdxd6305bcbcf595fa735fbf671bc2696cd4c250e6bd245a58f911038cd2be03d31	67533	4820916882	€0.464094920						
2023-02-13	1.2	0x7e1970230403a553c2754d0eaaea40ce32cfaa34588c779d49e72793cd85305	67533	4557688445	€0.438754724						
2023-02-13	1.2	0x65b4c987fde89245b2e9239d476b50aee3aa049624a01bc5e1e02eeb68b2103	67533	8725947271	€0.840020250						
2023-02-13	1.2	0xa8f524840902cab8640cb6a8d3298507b996d31a63ed7e92e43ef08bf7699d33	67533	8943830625	€0.860995214						
2023-02-13	0.1	0x2a9efb1ce87e3a8f0b0560335e62ebc08af7f662df5fba1a2a5fa61ce5e444	67755	8736344951	€0.843785876	67755	10520492171	€1.016104876			
2023-02-13	0.1	0x628dc4b40c5dda07a8b0dbdc6e5a5d8fb97e28a3e7e38d23a1510e7cdf49d8881	67755	8380178617	€0.809386122						
2023-02-13	0.1	0x7881751001070ff9f953c3c4eedf8db1208e63b004d9c0dc8d4fee3f0fb21e	67755	1229102824	€1.187109321						
2023-02-13	0.1	0x697942d04362c4991f03c502f73c70ebd6437c75ab89b266754e9cc1d375508	67755	1267416290	€1.224138185						
2023-02-13	0.2	0x35fa894fa10c9a849fa1ff1e31e18bf022487a2cab788399675a23db9dc8ee41	113680	24131147620	€3.910417861	113680	27302349124	€4.424306535			
2023-02-13	0.2	0xbddfce3314a9dc3cd407d9e307496b87f4452cd0202e1b809732c52cb20a4cc	113680	27456004291	€4.449211957						
2023-02-13	0.2	0x28e55ae640aba8a672cd16a6731034160e6e2b98d671bd56bb996fcdae266330	113680	2840282829	€0.620637593						
2023-02-13	0.2	0x6675fa1832b01b50d2e122962e0289ff9ac140ba3f6195c1ff783c3fb75acd	113680	29219380546	€4.734958729						
2023-02-13	0.3	0xb8ebdd39a7dc3beba9f02abf41e28cd7341385dfad5e2ea61e8ada96a169c8	159693	2735208344	€6.226405873	159693	25117714544	€5.717775883			
2023-02-13	0.3	0xc0c6513f6edfa26dad58ba43a9ad259b24b50fa28f1a2bf462f75ed3f8d528258	159693	25650594536	€5.839080246						
2023-02-13	0.3	0xb505e88e10d036b85170bf1384eaf86886cbdb875f6dbce54f93a3506122347b6	159693	23545232228	€5.359817232						
2023-02-13	0.3	0x1194d8382d5752e6b6763cb1621d756d9a5b7cc834b3406d312156abace833	159693	23922947566	€5.448800112						
2023-02-13	0.4	0xd2ad438c9e48864ba0688dbcdcdcfbf5f95f4f3785de8059cc009fb21b299	67731	2234099038	€2.157004433	67731	30027586768	€2.899139056			
2023-02-13	0.4	0x614a0bf07d1b86ea12585bc58ff7350bbdf4b22796926a6e80856413e6c281	67731	27469125762	€2.652121729						
2023-02-13	0.4	0xba0a02f9a7ba26abe0378c1f14dab07ce1952959912d2881c71c9e443404900	67731	30885116681	€2.981932871						
2023-02-13	0.4	0x7355de2fe3280bbe26568137635bf7f659f63bd87d909bd680c2438031c5fa	67731	39415114259	€3.805497193						
2023-02-13	0.5	0x58e4603b9f9ee028cd7761a917cd87d9cbf89f20f5135e4fca0a5ae40e0bf747	67688	40254773762	€3.884098192	67688	431941886				

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-13	2.4	0x1864d7647b7d24620eb2bcd41ff6642e677ac2184f8ee6829dc4797742e954f	89772	62763308233	68.031706988						
2023-02-13	1.31	0x00c87cd75d351625f9ecf6daabcc22396f76a1cfd3d6fd928ca50ca0d4688b	21848	55516561696	€1.729001526	21848	68022707918	€2.118491532			
2023-02-13	1.31	0x17dfa08b632f615d510993d9f5e4c7ab11aca864f2a1ca655d4cb2c1833	21848	60841282044	€1.894834315				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-13	1.31	0x29247b7d694a4be1405fb407103184a06fd7f8bb13248428931af3bc15704c	21848	767052717749	€2.388900319						
2023-02-13	1.31	0x3d96ce0d17993f32b5cd05fb455325e0637e880f0a05d4f5ed68dc302d5	21848	790277116182	€2.461230266						
2023-02-13	1.32	0xe0474eacab3212ecdf61b0be388ce53001fe7e43d0d54eb0a3662bebbd55ead90	22072	54384338095	€1.711105010	22072	64443615689	€2.027602019			
2023-02-13	1.32	0x5081afcc1a0e15ad29f76ce4d0d36b3d9404c9021debc1f290ad730624700f	22072	61441693923	€1.933151970				Transactions for key return (one line per authority)		
2023-02-13	1.32	0xae174e06ad45ce55802d0306fad949dd8432d0200ca45a0e0a545dcbf2594	22072	67167846512	€2.113315023						
2023-02-13	1.32	0x556e4d17b168bbdad6d55c7a5a7c0940654de5204ba466774a2050c80d06f76	22072	74780584226	€2.352836071						
2023-02-14	-1	0xa39f74ca4c74f2edebacab4443a2cd0586d05093b97c5f7e5c87291732ed	1692477	1785440337	64.248855597	1692477	1741066823	€ 4.1432588710003500000	Contract creation	0xa0ba694e64Ea49447828C28241d104C0846C69	
2023-02-14	-1	0xdfcd10b24a84a9418656034dca5248d6cd077447673cbf804e9e2182bef4e00	1692477	1696693309	64.037662145				Contract creation	0xc8bfdbcc4208cd56036eb0928251ed3Ba7aD41	€1,406.06
2023-02-14	-2	0xe2d282449fc098f4a8a2bde64294f65588e9eb71af7e2d8eb68119e5a3442cbf	67153	3040831804	60.287118827	67153	2918675764	€0.275584714			
2023-02-14	-2	0xee1db1d56c839ae7eedff060671cf927685ca0797541d96db1cf6f050385646	67153	2884228053	60.272332121				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-14	-2	0x3c0eb235cbf51ac888af900b9a2bd0fae7a5395624890f485f51121f9a8a363f	67153	2830967436	60.267303193						
2023-02-14	-3	0xf9c0c1e597bf5af7f44fe8cd972fd859035000c0f10711396975d9e20a0ed2d	67153	1521380338	60.143650477	67153	1459007145	€0.137761128			
2023-02-14	-3	0xb00c083237f2edddfe6ceb34cbb7b16d4e73494a603e7f28b81de08209c0869	67153	1449831355	60.136894740				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-14	-3	0xe2eace5113493770751f1d8c8a29b19c8aa053b5e0d8e13e2d74d2296a46e4e9	67153	1405809743	60.132738169						
2023-02-14	1.2	0x29c29dd0d0ceca83d2c841d456f7bfe356830f13cd772352e6c516a53a142800	67533	2559330262	60.243022357	67533	7012597553	€0.665884356			
2023-02-14	1.2	0x0892c34e7ee578977bda7885c0fd14d357623695f1b99168e5fbed8223bb	67533	2462917463	60.233687436						
2023-02-14	1.2	0xf96b93ddf7caad5ad98d5832b2af09f8edd14907f80464eb0c287724a76609f	67533	7542974360	60.716246525				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-14	1.2	0x2d8637ede8b6795da71b6dc9f0d032d65aff01eaf83407a1fabc099917ca10a9	67533	11335621861	€1.076379075						
2023-02-14	1.2	0xc8a5d03f6a27bcb775c2054a253b0a5f6c1433a54367d023ea1e87473e144c3	67533	11162143821	€1.05906389						
2023-02-14	0.1	0x397d36129b65e8a930cf50778102c07f217ca60d0a8c8f536b5a05883dc90835f	67755	9105077925	60.867418879	67755	11419273819	€1.087886757			
2023-02-14	0.1	0x39d3a84e63ef866135ea9e8998c8ab4681f97d7cadfc9d888dc0ff6d1a1f581	67755	8762865501	€0.834911274				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-14	0.1	0x49464ae22539cded7889914f2f1318625fa95382b938cd89a299f8b15a37	67755	14338768420	€1.366019987						
2023-02-14	0.1	0x47492eca292f8c0b386f14ed3b5fc8c1afaf48a9968eb193af873a105a019e2	67755	13470383431	€1.283291307						
2023-02-14	0.2	0xa6f715bacd09c0ac7a063bc864ae98761d2726530e00f0923917d5642189d1	113680	1254951558	€2.005947610	113680	11693564383	€1.869109864			
2023-02-14	0.2	0xfbc5970d2038b4cad9b4927e3ae004c01131acbf1cb58e5dac3083eda6d82	113680	11874930522	€1.880999592				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	0x47baade767a33b6d8d56a3a80c38e76e5232a0b8f8e4a3824d27e115787db0984	113680	11350734614	€1.814311645						
2023-02-14	0.2	0xb6b97bcb8d16e7733d086b0fad5e7fd5edae770a8fb0b7793958621749826a83	113680	1098940836	€1.758006011						
2023-02-14	0.3	0x4a5e2840d066134e514247e8a593de684041710972165a5040724f2dc84850	159693	13533190024	€3.038714604	159693	12939732634	€2.905460904			
2023-02-14	0.3	0xb6ce438376d158159d06f1c1a2367deabeeac27449b06643e2b2d2d69cfc1cfe	159693	12890588231	€2.89442621				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-14	0.3	0xdf005e1b51888dba36de97f0b081d03f4764e74626470dcd93139b9860a2412	159693	13435164126	€3.016704071						
2023-02-14	0.3	0xb7559735d1bd45b0b49f234396076479b1619b1264812705c4a08274e0f1407	159693	11899988155	€2.671998821						
2023-02-14	0.4	0xf07f5c4a2a147ba6286b91a3dc77e50f35d53431c20c6c2947eac23e2b6bb63	67731	1171804248	€1.115954314	67731	11512088404	€1.096340499			
2023-02-14	0.4	0xdcc57e5b0cf772a5d011230b0e94e75e88909d834c0a4796afe77247ea8885757	67731	10858971914	€1.034141701				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-14	0.4	0xf861cb1165431ca45da5cd8ba8e0b9bd81dd8dedd5502ae8063c55382940fba	67731	11073580893	€1.054579740						
2023-02-14	0.4	0xb649c8c84e7b45e82ee8ed57e27c80bf9632cac58e3bdfaa9ed2f43a74ba47	67731	12397758160	€1.180686239						
2023-02-14	0.5	0xaf9ae236d058a392cdab232cc366bc864da86ffaf8dddcade04ff3cd87ea207	67688	10451276011	€0.994836360	67688	9892619866	€0.941514161			
2023-02-14	0.5	0xc49a3d1a9a09ce1943b4d0bffc0bcfb57d828c35276667f1d86c35e722a094e	67688	10224407237	€0.973091490				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-14	0.5	0xfdf9ae53d97480c00a843ee45d5c2a2aab1b7d787a683643d823eb1a97595	67688	9429313894	€0.897419762						
2023-02-14	0.5	0x31355a3b6f3615dc724bfcfd586ea0fd041611f669740e4a623c82debdcae	67688	9465482320	€0.90062034						
2023-02-14	2.4	0xb222135204e8c592ace0c8ad556228959f6a516879654ead3cfd3ef9a0ed2e7	89772	8439633337	€1.065257010	89772	8593830528	€1.084754697			
2023-02-14	2.4	0x2957c4abfc8b1d91aaef9d3f58037ada792b1774cbdb3e3e4cbb0a4a198567e	89772	9182177121	€1.159018639				Transactions for the storage of the IFS link. Action 2.4 of the MARTSIA approach		
2023-02-14	2.4	0x068acbc892b13ef59a07d0f059cd82b76b5c707e6f22fead5f01887efc3d3e0ff	89772	7788413448	€0.983091072						
2023-02-14	2.4	0x592bc1fc243d1e8cb6e8207f16659da7f5c85b0a81e88947d04749aaa4d40ad	89772	8885680160	€1.121593364						
2023-02-14	2.4	0x9a8af197a0a568ae209a40cac76bb3b9f0e56e42cd0a8875b06462fcd600	89772	8673518572	€1.094813306						
2023-02-14	1.31	0x04c2f0ce0562d524638a32a91ef3c2aac64a783a4b5628e23cd941569c7137b7	21832	13065460427	€0.401071770	21832	13719752739	€0.421156648			
2023-02-14	1.31	0x1d98a57770d9f41944e218295072cdf5e60daf1675a10298a3ca45287ae8ba	21832	13273522020	€0.407458658				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-14	1.31	0xf963e7037a11b20b885f21bda2732099988f1fa9779a57f56382dd96dd98cb74	21832	13274330339	€0.407483471						
2023-02-14	1.31	0x67589690bec7de47885983d2558c440cd143db7f81fa51a4fbfcb42ab7d725	21832	15265668169	€0.468612693						
2023-02-14	1.32	0x5ba94c866599b98e6d2d750b09c6f5b2856d5b15af678081b94023449693c5f	22056	14006585285	€0.434373054	22056	14042576730	€0.435489223			
2023-02-14	1.32	0xa75a0641ceb4a0b6a90cc076508ba77faf92971352cb4d8d528e3c2265a357	22056	13260368237	€0.411231327				Transactions for key return (one line per authority)		
2023-02-14	1.32	0xb61eb2a190f55003a4fd5b30fe125fa8097D0edaa372b6aa85f8be05d19f90f	22056	14168151112	€0.439383543						
2023-02-14	1.32	0xe3b78e98df3bfb0200f5e2481022c5166ad64baec4ca567ea4967f8572740dd	22056	14735202287	€0.456968968						
2023-02-15	-1	0xd0104962bbb85c45d59171f0309de9aad080a57d41061fb8f57d95ed3ac3a2e9	1692477	28033052121	668.471153310	1692477	30410021973	€ 74.2769380829857000000	Contract creation	0x5c0BBEe7663E73254f698612e4d66193b1A98E0	€1,443.16
2023-02-15	-1	0xc277b98c9b6c5f7ffaf9402dabc37682a14c6a1770193c25c4d1137426640db7	1692477	32786991825	€80.08272856				Contract creation	0xd06a1A8210E43680fdeAc417bE1620f284D90aE	
2023-02-15	-2	0x3ddc9c7b63f7b10c946aad69a807b322f90e1709060784b58821105ec8c62b	67153	26353134944	€2.553948669	67153	25715756674	€2.492178873			
2023-02-15	-2	0x199be361c229956a656a3442ee2aa55763a9d078068e31663faad2e28f2ec1	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	0xc07787ef9bca509b52a411c6f0a9ed34a51766ecb8746e4886a40760cb572ba8f	67153	26312629367	€2.550023311						
2023-02-15	-3	0xf8a6383c59a22f8f7411fae571f8a302154347c53a8af982442b811d0cd0cb7	67153	32344385246	€3.134575995	67153	29871587288	€2.894930904			
2023-02-15	-3	0x74c21c14dc8bb8f44bbe6381181822ea169c63b82aaf722eb4d57a12f0c3ed27	67153	30496010315	€2.954453116				Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-15	-3	0x9eb079996f09bb4ac39254c9e5d70129c3036f8a699d64546c398cb2952712db	67153	26774366304	€2.594771403						
2023-02-15	1.2	0xac22a1ae5e2ff9fb19116162d63328d28227c03a90e1ca3b818e5178ad43e36	67533	25751396410	€2.509754896	67533	23239644969	€2.264957279			
2023-02-15	1.2	0xf2565abf0172c1548b13b572e8164a35a55b0ca71faee3e0a757231b0d37207	67533	22825638872	€2.224607682				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-15	1.2	0x704b1c485cf8f308a64d63eaa4d80cb3a89f0e90d239280bedadee41699cb29	67533	22721096727	€2.214410988						
2023-02-15	1.2	0x839493d9d5bf722c0f01ee5602117926e3c624ed4216366e419db28ff19e	67533	22712560451	€2.213587134						
2023-02-15	1.2	0xb28af517fcf11a634aed11f73afacbd48c700b23921f4c783485d7e688f1c38	67533	22187532385	€2.162417414						
2023-02-15	0.1	0x53062cd0fab2a53b5726f3b4dfbfc913a347e61173f56f6f238e9f00c10eb6	67755	2289597707	€2.238796648	67755	23968045671	€2.343626803			
2023-02-15	0.1	0xf6f828d3773f9cb2e637cdcc6890cc34cf19d291b6f53699c80dc74ed9616	67755	24480120025	€2.393989102				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	0x4cd749aee855657c1328af7c266a9c700934f167951fc379da5b60af9ac2cd	67755	24591596							

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-15	0.4	0x7782d271abb4cc46ceff5d396ded303cfac9fd020012081971639859270725	67731	13144777044	€1.284858183				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-15	0.4	0xcd0253bd913a7ef4b6780f2cef0f959ae8fc63a9f25cad3c24cd325af804c383	67731	12876939294	€1.258677935						
2023-02-15	0.4	0x59762e21d4c507834bd7cd90042189aa2a2662d75408c65756c61934dbdbd4	67731	13199523886	€1.290209505						
2023-02-15	0.5	0x3027f52662847e1c0aed89c8135c41192878oad27b816addac4e1e1aabc61c4	67688	13628189588	€1.331264441	67688	12961306567	€1.266120230			
2023-02-15	0.5	0xb2d15687d9d52d57a7dd4c17f8da46f47a0c8ac7ad32d33b421ada2bce8cfa	67688	12489986807	€1.220959679				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-15	0.5	0xb86eb5b10f3fec18d13b6bc91b6b866b2787cd972cd9f91226bdf785d8de5c43a	67688	13359244314	€1.304962625						
2023-02-15	0.5	0xb6f4e3d070b1e770ef8ea19d473ccecac01071f6417a513b3639f5341269606c	67688	12358795560	€1.207264175						
2023-02-15	2.4	0x39f4b827759f52546074b8c5baae54bbfd24392a33b46d0d17ebbd1dbat12de	89772	12763381060	€1.653564422	89772	18081915155	€2.342609019			
2023-02-15	2.4	0x07402fee27ef0ab47cbdbbdf59a118413bf1adcf4d45c8e8d45ae87d694a7d58	89772	18508954187	€2.397934214				Transactions for the storage of the IFS link. Action 2.4 of the MARTSIA approach		
2023-02-15	2.4	0xb6ea60679ba52432dbde584618f9371630a787ad8c4d6d948d6593dbbeab6266908	89772	20199705921	€2.616980126						
2023-02-15	2.4	0x5ee7777eb566f954db2f2c0ce98abc889c1ce369c4cd6de2ee90a096b070983	89772	17590475072	€2.278940322						
2023-02-15	2.4	0xa689ee47a0e32d7c54146a0a1818704ae842be4b2cc8e5ef65586284b7c27a1	89772	21347059536	€2.765625973						
2023-02-15	1.31	0xb9b1f73c75b0936963c1c302635aa2d33c9523c5e4037a7a040b07288561749d	21832	19734886283	€0.621788426	21832	33151736769	€1.044514062	Transactions for requesting the key via blockchain (one line per authority)		
2023-02-15	1.31	0xdcd097e4c0a9227551e0a43488ccf614c4fc13dfe924ae78b59a1f4fa0ba58b	21832	39902955953	€1.257225191						
2023-02-15	1.31	0xcxc23a5a21bbaf3db4fa039859a78848574ae08495bfdf57008547f38d018	21832	37609036147	€1.184950501						
2023-02-15	1.31	0xc3b1450241f1f6d9eb31bd274dce0d438ea89d429658048cd7c6eab21d81795f	21832	35360068693	€1.114092128						
2023-02-15	1.32	0xd935af54f4344e62203fa3b697c5693a2abb95232a1bba38db3e6ab9544e	22056	40058853013	€1.275086790	22056	36854730147	€1.173098479			
2023-02-15	1.32	0x490e3a8b5336c0516486e6673bdf7771e2865290d937409e28297ad16d082b0	22056	38467249983	€1.244425529				Transactions for key return (one line per authority)		
2023-02-15	1.32	0xbdb33eaf79935f3b2c39627b6b0585301a84a248126d7c4f82f1823b0e78c57	22056	36464991948	€1.160692981						
2023-02-15	1.32	0xf247d61f4d89dbf0c4c77359e7000c97693c22e0a33e1a5405877ab58f94	22056	32427825644	€1.032188617						
2023-02-16	-1	0xdxae298a5560cc3c3ee95f9362dd899cbbebddcd4bc160979739ce37b72d27	1692477	2648007229	€7.049937769	1692477	2403932064	€6.64030401937496900000	Contract creation	0x3d3E46E370312ed90204D06135e2DC75BA7cddb	
2023-02-16	-1	0x625b8961f6d48599c80890520f7b0d15a9b15e0cd69da04e9b27d42b144c	1692477	2161063399	€5.756142618				Contract creation	0x463AD822C2Eda91e0f8563AD5f0A08C8bAD068	€1,573.77
2023-02-16	-2	0xb931204e9b9256ba13bb8f1484c4e004f63cbfc97a5eb9dcfa359031fe55314	67153	2255587773	€0.238378133	67153	2241822338	€0.236923355	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-16	-2	0x186e20408f3d44527b8dd14193f1d2a9e5e6c4f856cd4a23fa20f03d2b89f	67153	2322534101	€0.245453247						
2023-02-16	-2	0x5a49138953eb18633db8f0c0ca9162cd45ea8b035159337d9c0e1548051f48	67153	2147345140	€0.226938686						
2023-02-16	-3	0x3bd2769fec113dbbaed49e7201ad920bf384a780f691595b62607656e1f77	67153	2675730211	€0.28056571	67153	2872577315	€0.303583671	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-16	-3	0x5ef8dd9f021793a6867208a7d3d06c2507bdd5027bf19111f7c1c5d79ef4119	67153	2994522596	€0.316471260						
2023-02-16	-3	0x632d447370f1093772053e65926c80e13ec187b93071a885e9b13c2dbd86116a	67153	2956597137	€0.313422986						
2023-02-16	1.2	0xw513f42f38387203310cc17a32b629484a09224f0243566d338c537a673793a	67533	2061097965	€0.219056397	67533	1787192412	€0.189945328	Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-16	1.2	0xf871f827532ad9b2eb0bdadd7c99cde4f3e070324fce77503ae58785c47c32	67533	1799686590	€0.191273227						
2023-02-16	1.2	0xb519adddd5e5eaa0dc6a787e13afc6dfacba40149f2124ae189848d5474a1	67533	1893034932	€0.201194421						
2023-02-16	1.2	0xfcd0695da9651aao597287c39ae309be8c73edaf9fc12cd7e964ca0a3c5b7860	67533	1622959071	€0.172490377						
2023-02-16	1.2	0xd017b42ec62108e8277c286352245c772c8c5a3a0543d0ded168c46a6795781	67533	1559183501	€0.165712220						
2023-02-16	0.1	0xe2eb492f5b285c1430189f5a27132cfe54654f971ce7910a26c98855227cbb6	67755	1342279043	€0.143128270	67755	1344578483	€0.143373461			
2023-02-16	0.1	0xa8a32cf57ef2cf1460ed97c079ba4ad2f1b0c50ca3016bd396931033c2756	67755	1409502732	€0.150296385				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-16	0.1	0x70de5ff43aded5858e15408d1e01a580a46a76a711f12861d78d353a8ec01b2	67755	1318141893	€0.140554507						
2023-02-16	0.1	0xb947b0086b462f760a99ab025124339bc4c735d5f5ba1e25951ef0b49b4a6	67755	1308390265	€0.139514683						
2023-02-16	0.2	0xf44f72ed18c983d97506795f646c3f0200356aa1c450d3e99be04c2e90d7	113680	117344924	€0.209918651	113680	1006202797	€0.180015892			
2023-02-16	0.2	0xb597e6b1f952ca77661d101151d3eeaa4004fa0111016a48f1be9b10dab0c	113680	1356474718	€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	0x93e2abfc8215d2d6a859ee9ae1425c51554cf591603383bf1d7a452a426511	113680	139011077	€0.024869940						
2023-02-16	0.2	0xc582b98a264e2c9e9089f09a451598c2a82c428ee01b3a3aac8d48c6de5cc7	113680	1359977767	€0.242592794						
2023-02-16	0.3	0xb8931001173dd4ff9d00433f8b7a289ca9a8c335645cd4997b0f8f3b11	159693	1269434625	€0.319011507	159693	1310327723	€0.329311632			
2023-02-16	0.3	0x0999cb899836035913b2eb38f4a0709f597f507b2cc557dc15dc0c37ae3a9	159693	1290148763	€0.324240255				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	0x22b2f38c755168d46a73c7f7bce24671bc97c1becc62640d241ecc93a0f9d316	159693	138614261	€0.348355997						
2023-02-16	0.3	0xd91278c3f3d1ec7d417736f1470b873f80832d0e8a1cd011216ef12a1818312	159693	1295657244	€0.325629720						
2023-02-16	0.4	0x2388828111a8e172349f2564cb617e957e446e945026d9cf0c434a52223ed0b	67731	1315137378	€0.140184159	67731	1947768505	€0.207618519			
2023-02-16	0.4	0x03371c5f8564980f09b8a5e5d817c4139b34cd2154bf1b24401bc97be149cd	67731	2174295150	€0.231764677				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	0xc9bc4d79e081fe201d6e046baa9913f3c8443822c17afb4a2daf8995804c	67731	2229937046	€0.237695715						
2023-02-16	0.4	0x44365a2d7938d14c1e56932d0990b1b4deddecfa37a3f69ad15e988c8b8603	67731	2071704444	€0.220829225						
2023-02-16	0.5	0x2ae9f162bb29bdc882d3b0218dd3171af345df521d395c82be3bcd9b7fa103	67688	3491541822	€0.371937693	67688	3661060228	€0.389995699			
2023-02-16	0.5	0x07f3f3f3350b6c05bc013cc6608b26656cd96489b244a22b67e942e6265	67688	3935948092	€0.419278224				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-16	0.5	0xb9e6f68fe719f54f3e26d3920357b1b457bceae89428d063d8991d123d27d1e45	67688	3614443086	€0.385029792						
2023-02-16	0.5	0xc3329f785b5e3105af14981eeeb3062b2530067c4946740777fcbcd6249f0e	67688	3602307912	€0.383737089						
2023-02-16	2.4	0x7184c42a326d5eafaeaa05d48f189f03139f12334aaeb9800c3c6694ad7	89772	2912518874	€0.411482066	89772	2961942982	€0.418464727			
2023-02-16	2.4	0xd6147abf17138a2d826d73c1bb269738b628a3fa6804e0d8aaedc05196352	89772	2976275159	€0.420489584				Transactions for the storage of the IFS link. Action 2.4 of the MARTSIA approach		
2023-02-16	2.4	0x7f0a5e424efc28ecd28276f44a09a339e8e61b383ac99d87c1e7a0c450e4ae	89772	2677830117	€0.378325125						
2023-02-16	2.4	0x7f10e3cbb85a237947416159664698a3bed027269b3797896a115d86443e3c	89772	2518831680	€0.355861747						
2023-02-16	2.4	0xbcb859606cd85193e14035c5173170d59ec9c3ba34d11f38ba816f588d15067666	89772	3724259098	€0.526165115						
2023-02-16	1.31	0x0524138759613b172d2fc13e9d954316b4a188b180e0d24827b35c85e9ad357	21832	4216235758	€0.144863733				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-16	1.31	0x432475ea178a01d357b6239095b91bbf54cb421cbbfde7ba3c191d7e32ba12c	21832	19503857325	€0.670124192						
2023-02-16	1.31	0xf75d61d066ca981f22c2131abc69b12a5450afaa54ac3c529d5e3226e4210ce	21832	18413280486	€0.632653556						
2023-02-16	1.31	0x35963780e044a99f6507e747973828cbb1bf1d7cdcd409491b77a215ddfe62	21832	16632493548	€0.571468305						
2023-02-16	1.32	0x57e6006787d5b782349ce094c67f30709078afbed992a2db45563bedef12ea5	22056	3567126043	€0.123818766	22056	12855221760	€0.446218517			
2023-02-16	1.32	0x459cd7f422ec97167f55c5a0c0802aad086c712c2995f73de4f9f10f129137d	22056	3814915464	€0.639201440				Transactions for key return (one line per authority)		
2023-02-16	1.32	0x0578a48d499805b570ab67092b67d1447f5ca19577f83a4b15de088fe5e9a2	22056	15654911038	€0.54398730						
2023-02-16	1.32	0xbdc0fc263a7302bb4307c8a1a132d5b30cc72f680030a2d2c0e286814faeb97	22056	13783934493	€0.478455130						
2023-02-17	-1	0x0a2ed6b29a22b0f7be7d97af08f8f7237412b4ed080c48884009f744cbfca	1692477	10427400448	€27.605742881	1692477	11351255568	€30.051584488360000000	Contract creation	0xe9A7274e7aF12bc96F59b6c8B740DIDD587953A	
2023-02-17	-1	0xd0120e0507315d1f8505497aed3821ddfb5cc9f5ba8a5c020144e37089e03d	1692477	12275110688	€32.497414017				Contract creation	0x61EDEb1Aaf9de9D84355Eda124D6b81BC39db4	€1,564.23
2023-02-17	-2	0xe140f38547242eb21bd2cb6e96fa284d2529fbf33a218a030fa31cd29f36b	67153	8942945016	€0.93991423	67153	8685348804	€0.912332812	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-17	-2	0x03222b4e3b0dbdd5f9e9ad2dfb63f8e8144dd4acaf9b3f804d8ba9c3e01597	67153	8703045754	€0.91491748						
2023-02-17	-2	0xb6e5d31									

Test date	Op type	Transaction hash	GasUsed (unit)	GasPrice (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/)
2023-02-17	0.1	0x902afc0b804feb7b9adba26f23e594d08350a7b5f5a23df0de91cca9ab4daab8	67755	17532939642	€1.858218152				authorities (each of them: one transaction per authority)		
2023-02-17	0.1	0x1ee92fc89769aa323793dfca4566cfd388caab0879f536136362e0cf8e95baee7	67755	18107713964	€1.919135266						
2023-02-17	0.2	0x4807cd997b9e71cb61ab9ddeea13387e63b331e1bd24bc1d52d404c8e8d7775	113680	17872786297	€1.78166843	113680	15697034183	€2.791272776			
2023-02-17	0.2	0xb6ffcdcf1d58fc25454bf3ebc5480948a9e2c3bbe3a3b3d7a54e17d7d4392dbb70	113680	15745845664	€2.799952515				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-17	0.2	0xved93c7da86836e5ddcd17efebfd9e28be05a9292504e059b33b886a3f2c1	113680	15166801258	€2.696985874						
2023-02-17	0.2	0xced3f346cd0be9f14e3c01a5533d5d500c32d2b7c8593ae25ff417ffc594ed82b	113680	14002703511	€2.489984072						
2023-02-17	0.3	0x14086e65b67556803967e5b51bcc50e332ae6262b0204313f1549b1499091	159693	14527763128	€3.628985565	159693	13698248774	€3.421775715			
2023-02-17	0.3	0xb66001e6de77ef17a37aa8133d61faee8ec05561f9d56871a838948fde56ca522	159693	14624843973	€3.653236028				Transactions for the storage of the elements. 0.3 action of the authorities (each of them: one transaction per authority)		
2023-02-17	0.3	0xaca35b1fdd48399e646b107c521b624a1f2417978641f57a21d9d67840bbdb9d	159693	12605968181	€3.148927557						
2023-02-17	0.3	0x8a33019c2f17d14d0b702bafddfa48cd2d10ab36018ac9a7ff4fac5c242fad34cf	159693	13034419812	€3.255953709						
2023-02-17	0.4	0x36243c3d57e919656017525dc00f54a66f9b26c90f640c38c2db9afadedd21df836	67731	10253549899	€1.086331437	67731	10870379032	€1.151682549			
2023-02-17	0.4	0x7e365d0ad7ec15e2c33bcd33c0940882ecf7ad213ca06a1ff2d3be4c7d7049e	67731	11560926540	€1.224843890				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	0x42965bdd768513faa4d0e00908e7b7497b1d48496925f9f479b4c6e8019168f	67731	10469425058	€1.109202733						
2023-02-17	0.4	0xbdf4c51c0b077c403f8ecadae661836df826f5809c540b9dfa1d644e8fca2a5b2	67731	11197614629	€1.186352133						
2023-02-17	0.5	0xad243e59f84fc49448c995030e85d3ef3c4cb7a4dc3ff639a5a93eff04a586	67688	10785980196	€1.142015271	67688	9930362825	€1.051422846			
2023-02-17	0.5	0xa497de569a04ebf736cb798081dc3ec10a119c121782175b1bed1b8d76e5b72	67688	10325017088	€1.093208682				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-17	0.5	0x7681c371f0045ce1da1d9c86ae521ad9a25c4954c931a9bff870a439f70b0d69	67688	9190016948	€0.973035321						
2023-02-17	0.5	0x33c4e451f2f556fdeff8f5b6f83a2309a98dedb44947ee24758448c287f57383c	67688	9420437068	€0.997432111						
2023-02-17	2.4	0x737c40721f4f20833dbacbaafaa2778b826fc80b475e717035872df41b06	89772	11322755216	€1.589987208	89772	11163275373	€1.567592401			
2023-02-17	2.4	0x3d011113946a34a0ca817b2b05c5dbf130438dbaea53b1faf7b3ebec88212094	89772	10552062033	€1.487163345				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-17	2.4	0x472ce2719c1fead9901feb08f9d38db2878c287a71bd90c8abb857793198272	89772	10817262854	€1.519003920						
2023-02-17	2.4	0xaa72ac645b9dd6defec95511fde599d8e39ac536e9029228cc1cf5a2a425b130	89772	11236466887	€1.577870250						
2023-02-17	2.4	0x4f3e394cc4cc0c347515808664d211dfc36e1ab012882aedf08e345ca39d37	89772	11887829875	€1.669337283						
2023-02-17	1.31	0xa69293877b2c72ef9a05a73350023c3c13f870ce54338a25472389b7ef3e0	21848	13115805275	€0.448236541	21848	16661287552	€0.569044451			
2023-02-17	1.31	0xa64765e5be7f625913983400cb35c9626905dc2846e22f93f3c616dc393c9d6	21848	17044420521	€0.582484464				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-17	1.31	0xb8d83342ecb539893517360579d24c0f1687ee973a2518583cb6b612f94e	21848	18351184220	€0.627157172						
2023-02-17	1.31	0x5c140047b4dd7bbeca3628b54165357ff924410343a311512aeb17b4cb8133e	21848	18134140190	€0.619739628						
2023-02-17	1.32	0xcba85a021b099b4eb022eebaa758a6cb0ee8226059cd46be1e714a533436	22072	14618996553	€0.504730864	22072	17005937643	€0.587141639			
2023-02-17	1.32	0x028f4c8508f946869a1d39e4fa7d33de21675db3a72abde10ba0166c2ea1123	22072	16738707824	€0.577915346				Transactions for key return (one line per authority)		
2023-02-17	1.32	0x1fe44079437428d09f32284ae09e66ac350bc2566e2da4ee30a19589cd9af	22072	16851698136	€0.643962546						
2023-02-17	1.32	0xd961771a3e3be9cafd98857df38bfbc44d90c626037aa16a4d04ca100ee0bf	22072	18014348057	€0.621957699						
2023-02-18	-1	0x2e6342133f86a68bc2e377aa893529a34b1369ba2a284b200ae7dcb9ae01	1692477	914104552	€2.445951099	1692477	927357130.5	€2.481412205674700000	Contract creation	0x6a2b14228b5f69528eBf03F5f22Fb7F58A7b2f92	€1,580.99
2023-02-18	-1	0x42d6d34c3c54082623a0a0e0700e53ca0962b716182c1e4f422943c0d429783c646	1692477	940609709	€2.516873312				Contract creation	0xc043776dA2379dFec7F819a013F1A83c4b4D21dAd6	
2023-02-18	-2	0xebb531b9289bb7692a65d9927139c15dbdb52d319b1cd7a9150c358a4fe3793b	67153	909007138	€0.096507671	67153	908583994	€0.096462747	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) key_on_block		
2023-02-18	-2	0xa5e63da2ef77b5321da9cccf5442cad55c94ccc76ba0db48184dc80322774c0	67153	908372422	€0.096440284						
2023-02-18	-2	0xaa22ae20241ac388014b940cea6aa5c9298cbbe4fb663cc0b3c538f2f7e506	67153	908372422	€0.096440284						
2023-02-18	-3	0x4ed6c899ef7b434bf330f15267eb5a2d79e5522dcad49a67130b40bde5f2ce	67153	928121552	€0.098537014	67153	925249009.3	€0.098232042	Transactions for storing public key readers (actors). One for each of the users (manufacturer, supplier1, supplier2) main		
2023-02-18	-3	0x18edefb8a04388399ef2c217eaa321587497ccbc2da0d63925c77158e3a5837a	67153	921536886	€0.097837932						
2023-02-18	-3	0xcfc536582143c2b07b71fbfd19d9e34a8c8db95d72eb8ac31a1a1b28092ebe04	67153	920688990	€0.098321179						
2023-02-18	1.2	0xa1be5b64465deecbe57431ea79b01919059ed115ab86bb8006ee772cd0ee02	67533	858171275	€0.091626087	67533	750402786.8	€0.080119753			
2023-02-18	1.2	0x5d6ed50d2a4b628e96dc18fe089c5e98331eeb5f57538759193ac38e1b2135	67533	765594440	€0.081780188				Transactions for the storage of the user's attributes. Action 1.2 of the MARTSIA approach		
2023-02-18	1.2	0xb8c0c4989528f5156a2902905bcd33a9f5c40fe54213454be214813161d9f69	67533	708586056	€0.075850223						
2023-02-18	1.2	0xb2763fbd160be15a69c78f08392c252f07d2025b5d7582d1ed47356bfdf7c92	67533	709926729	€0.075798165						
2023-02-18	1.2	0x593c393449a9895239e97eb9d11bdfa0ab8f172b207b57192710543a161818	67533	709375434	€0.075739304						
2023-02-18	0.1	0x876847410edd3ebafb194d1515d6eb7e81ba23be85ae7d837abb12ac8b8ae9d8	67755	708375582	€0.075881176	67755	712905973	€0.076366472			
2023-02-18	0.1	0xd7708aa5925180e159f3407f98c43dada4b4769c7690876f2209a2d5620824	67755	711091608	€0.076172117				Transactions for the storage of the authorities' names. 0.1 action of the authorities (each of them: one transaction per authority)		
2023-02-18	0.1	0x4842edff33db0b5f03c4a9f51ee9b7947d52fadc4f57da421621096c362d1ba	67755	716746028	€0.076777818						
2023-02-18	0.1	0xc0c97799afc5f2d24d1b22fbf87053015c0bec43af2dc8bc04208e220c33c4690	67755	715410674	€0.076634775						
2023-02-18	0.2	0xa95b927fcd31a6adfa5edc0787ef43dda7d3fe2e8ab2999d7cd53dbdb0e73498	113680	711801840	€0.127929969	113680	708452538	€0.127328009			
2023-02-18	0.2	0xc8eab4b2802d79326cb5eb8aa2052727d907b2803050fb205d9fc2a9c1741727	113680	705596079	€0.126814626				Transactions for the storage of the hashed elements. 0.2 action of the authorities (each of them: one transaction per authority)		
2023-02-18	0.2	0x44falc11f5a4036bd6bf2b49de882704619239d3ca9f8a3809017d07691c1	113680	708298789	€0.127300376						
2023-02-18	0.2	0xd50df0a516ebc675de2ade3bdeeeaf1b96d4ebbbe2a3c3572b9feb4707ef1c	113680	708113444	€0.127267065						
2023-02-18	0.3	0xc43f5b276380c2f2a8d8edd4b08009ba2f3b67e7033d23799085fe90c7849	159693	706041306	€0.178253962	159693	710034971.8	€0.179264685			
2023-02-18	0.3	0x07ec4ce635d3dbb137744dc5f0ad5d22bac93de0bac8fad8a41ca1e869bb4c	159693	712036677	€0.179770062				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	0x75a060386c6238f034cd9c4ac6c1ba7f0667eac8629961b391187139505d80e	159693	713784936	€0.180211450						
2023-02-18	0.3	0x5850ee561c2364da69195e0b009f02aa9e7e5cef56d322b97aab88511edcd	159693	708276968	€0.178820836						
2023-02-18	0.4	0xd915e16178b7a070ee59f1ab0c8e369261935d47e7b82cd6f21ce050641745baa	67731	703195173	€0.075299569	67731	698472663.8	€0.074793873			
2023-02-18	0.4	0x3e2a9adb407c1a18a0e528580e10e3b752122e1e602a9e64b766b0e0568f	67731	699586527	€0.074913148				Transactions for the storage of the public parameters. 0.4 action of the authorities (each of them: one transaction per authority)		
2023-02-18	0.4	0xd41aa8a59f6b8406a12011a01089c38e95f9009b0b5d3865b48412b88453799	67731	696874985	€0.074622791						
2023-02-18	0.4	0x65ad12bd5d4722bd2c2140bb4327d076674473ebdb4cab9c27ff5c5b3588a97a	67731	694233970	€0.074339985						
2023-02-18	0.5	0x81bb2195f67aa989004188e08e9a580a43d4514a5d8732bf7d20bb8d449e7e	67688	691921119	€0.074045282	67688	690340563.5	€0.073876140			
2023-02-18	0.5	0xbab0d3d25819b210c449f6a352ad4cc28fd6a06c44136e838f66332a1a1b	67688	691668811	€0.074012861				Transactions for the storage of the public keys. 0.5 action of the authorities (each of them: one transaction per authority)		
2023-02-18	0.5	0x0738597005c08c238ebc5160ad5b2d99df1a462249f165feae853dc3d3491c	67688	690097171	€0.073850094						
2023-02-18	0.5	0x9f99add741dc8d08971eada31e8fb9f76cab02ced7f7229e7a394e97ba0	67688	687675153	€0.073590904						
2023-02-18	2.4	0xd9d3d426bb8b17993cb9a4835eedc3020280b02e0d82eecc16c255ada2d668	89772	68959519	€0.097362407	89772	684447600.4	€0.097142713			
2023-02-18	2.4	0x0736f6aba4b7d4d4441d0a5106ed4a483c2baed98f34177e3c9ab6f50e1e	89772	685135285	€0.097240315				Transactions for the storage of the IPFS link. Action 2.4 of the MARTSIA approach		
2023-02-18	2.4	0xea428ca1a2d1135213af1b7d18793b93d2267645dd3c3092adb59368052a2d5	89772	684374701	€0.097132367						
2023-02-18	2.4	0x15175b011b345d27206a4d298603c58b1cd8aebc632ae01725a4b64336d68d5	89772	683755238	€0.097044447						
2023-02-18	2.4	0xbcaae27991d984b64630c9a721a5c0423bd74d31008d377d23a9a79d32b51	89772	682977259	€0.096934030						
2023-02-18	1.31	0x2466f59baa7d5e488799b3c3982c20a8e78df1a5c29d19429dffb80c56ff	21848	682212597	€0.023564626	21848	679248595	€0.023462245			
2023-02-18	1.31	0xb6feb0dcbcab801b42ca30f8e8da35f3b70a131f220ab1ee85bd65f063cd08	21848	679460325	€0.023469558				Transactions for requesting the key via blockchain (one line per authority)		
2023-02-18	1.31	0xdff7d0e78a7179ca607062ce0af85998e8b137f12aab8825e360aa52f6a321d	21848	678019336	€0.023419784						