```
task/resource/work item description & definition {00012-9900_DD-MD rtf.M.a.a} PROMFI

project title: ATMEV

--- project components -->
budget

project component metamodels -->
```

feasibility prototype

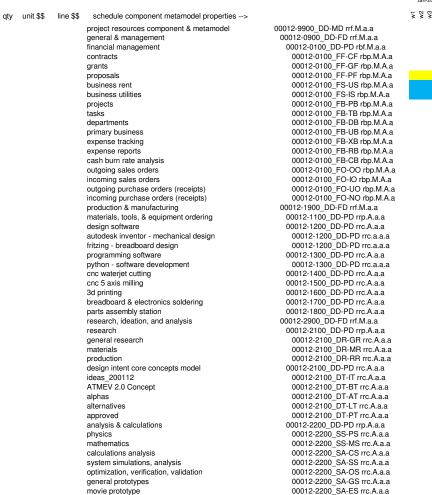
| 0-0004000 DD-MD Spf.M.a.a

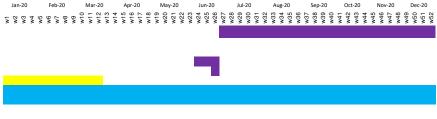
00012-9990 DD-MD rpf.M.a.a

00012-9900_DD-MD rbf.M.a.a 00012-9900_DD-MD rsf.M.a.a

00012-2200 SA-FS rrc.A.a.a

schedule component metamodel (values=hours|green=done|yellow=in progress|blue=ongoing|red=stopped|orange=pending change|purple=planned)





Mar-20

task/resource/work item description & definition {00012-9900_DD-MD rtf.M.a.a} PROMFI

00223-9990_DD-MD Spf.M.a.a

project title: ATMEV <-- project components -->

speed controllers

00012-9990_DD-MD rpf.M.a.a

00012-9900 DD-MD rbf.M.a.a

00012-4300 DC-SC rrc.A.a.a

schedule component metamodel (values=hours|green=done|yellow=in progress|blue=ongoing|red=stopped|orange=pending change|purple=planned)

Apr-20 May-20 Jun-20 Jul-20 Aug-20 Sep-20 Oct-20 Nov-20 Dec-20

budget

project component metamodels -->

00012-9900_DD-MD rsf.M.a.a

ınit \$\$	line \$\$	schedule component metamodel properties>	
		horizontal prototype	00012-2200_SA-HS rrc.A.a.a
		rapid prototype	00012-2200_SA-RS rrc.A.a.a
		storyboard	00012-2200_SA-YS rrc.A.a.a
		vertical prototype	00012-2200_SA-VS rrc.A.a.a
		wireframe	00012-2200_SA-WS rrc.A.a.a
		animations	00012-2200_SA-AS rrc.A.a.a
		mock-up	00012-2200_SA-MS rrc.A.a.a
		reports	00012-2200_SA-PS rrc.A.a.a
		theoretical approach	00012-2200_SA-TS rrc.A.a.a
		testing fixtures & jigs	00012-3900_DD-FD rrf.M.a.a
		linear actuator prototyping	00012-3100_DD-PD rrp.A.a.a
		magnetic gearbox prototyping	00012-3200_DD-PD rrc.A.a.a
		compliant joint & wheel prototyping	00012-3300_DD-PD rrc.A.a.a
		suspension arm prototyping	00012-3400_DD-PD rrc.A.a.a
		modular chassis prototyping	00012-3500_DD-PD rrc.A.a.a
		electrical and programming prototyping	00012-3600_DD-PD rrc.A.a.a
		integration of partial prototypes	00012-3700_DD-PD rrc.A.a.a
		modular reconfigurable testing fixture	00012-3800_DD-PD rrc.A.a.a
		proof of concept (brief wbs)	00012-4900_DD-FD rrf.M.a.a
		hyb. Whllimb. Susp. (struc)	00012-4100_DS-CS rrp.A.a.a
		8020 extrusion components	00012-4100_DS-CS rrp.a.a.a
		stock materials (sheets, tubes, bars, etc)	00012-4100_DS-CS rrp.a.a.a
		hyb. Whllimb. Susp. (mech)	00012-4200_DD-PD rrp.A.a.a
		linear actuator components assy (typ.)	00012-4200_DH-LH rrc.A.a.a
		magnetic components	00012-4200_DH-MH rrc.A.a.a
		electromagnet components	00012-4200_DH-EH rrc.A.a.a
		hall effect sensor components	00012-4200_DH-HH rrc.A.a.a
		electromagnet structural components	00012-4200_DH-SH rrc.A.a.a
		suspension components assy	00012-4200_DV-UV rrc.A.a.a
		linear actuator components assy	00012-4200_DH-LH rrc.A.a.a
		steering components assy	00012-4200_DV-SV rrc.A.a.a
		linear actuator components assy	00012-4200_DH-LH rrc.A.a.b
		limb components assy	00012-4200_DB-LB rrc.A.a.a
		linear actuator components assy	00012-4200_DH-LH rrc.A.a.c
		wheel components assy	00012-4200_DV-WV rrc.A.a.a
		drive trains, shafts, axles	00012-4200_DZ-DZ rrc.a.a.a
		bearings, collars, couplings, gaskets, joints	00012-4200_DZ-HZ rrc.a.a.a
		springs, dampers, shocks, linkages	00012-4200_DZ-SZ rrc.a.a.a
		servos, steppers, linear, acdc motors	00012-4200_DZ-MZ rrc.a.a.a
		gearboxes, harmonic drives	00012-4200_DZ-GZ rrc.a.a.a
		magnetic gearbox components assy	00012-4200_DH-GH rrc.A.a.a
		end effector components assy	00012-4200_DB-EB rrc.A.a.a
		hyb. Whllimb. Susp. (elec)	00012-4300_DD-PD rrp.A.a.a
		circuit boards	00012-4300_DE-CE rrc.A.a.a
		pcb layout	00012-4300_DE-PE rrc.A.a.a
		wiring & cable harness	00012-4300_DE-WE rrc.A.a.a
		power systems	00012-4300_DE-OE rrc.A.a.a
		sensors & feedback	00012-4300_DC-FC rrc.A.a.a
		control systems	00012-4300_DC-CC rrc.A.a.a
		microcontrollers	00012-4300_DC-MC rrc.A.a.a

task/resource/work item description & definition {00012-9900 DD-MD rtf.M.a.a} PROMFI project title: ATMEV <-- project components --> budget project component metamodels --> qty unit \$\$ line \$\$ schedule component metamodel properties --> diodes led capacitors resistors integrated circuits hyb. Whl.-limb. Susp. (fstnr) screws, bolts, etc washers, nuts, rivets hyb. Whl.-limb. Susp. (prog) system module shared components ghost components rules and strategy

language, paradigm, structure, goals system check class system check functions call other modules class call other modules functions other modules feedback class

other modules feedback functions (sensors) power module

power class power functions suspension module suspension class suspension functions drive & break module drive & break functions steering module steering class steering functions walking module walking class walking functions

full R&D testing fixtures & jigs full system development

00553-660 DD-MD Sbt.W.a.a

00012-9990 DD-MD rpf.M.a.a

00012-9900_DD-MD rbf.M.a.a 00012-9900_DD-MD rsf.M.a.a

00012-4300 DW-DW rrc.A.a.a

00012-4300 DW-LW rrc.A.a.a

00012-4300 DW-CW rrc.A.a.a

00012-4300 DW-RW rrc.A.a.a

00012-4300 DW-IW rrc.A.a.a

00012-4400 DY-SY rrp.A.a.b

00012-4400 DY-WY rrp.A.a.b

00012-4500 GR-PR rrp.A.a.a

00012-4500 GR-SR rrc.A.a.a

00012-4500_GR-GR rrc.A.a.a

00012-4500_GR-RR rrc.A.a.a 00012-4500_GR-LR rrc.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500 GR-PR rrp.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500_GR-CR rrc.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500 GR-CR rrc.A.a.a

00012-4500_GR-CR rrc.A.a.a 00012-4500_GR-FR rrf.a.a.a

00012-4600_DD-PD rrp.A.a.a 00012-4700_DD-PD rrp.A.a.a 00012-4800 DD-PD rrp.A.a.a

00012-5900 DD-FD rrf.M.a.a

00012-6900_DD-FD rrf.M.a.a 00012-7900_DD-FD rrf.M.a.a 00012-8900 DD-FD rrf.M.a.a

00012-4500_GR-FR rrf.a.a.a 00012-4500_GR-PR rrp.A.a.a

00012-4500 GR-FR rrf.a.a.a

00012-4500_GR-PR rrp.A.a.a

00012-4500 GR-PR rrp.A.a.a

00012-4500 GR-FR rrf.a.a.a

00012-4500_GR-FR rrf.a.a.a 00012-4500_GR-PR rrp.A.a.a

00012-4500_GR-FR rrf.a.a.a

00012-4500_GR-FR rrf.a.a.a

00012-4500_GR-FR rrf.a.a.a

00012-4400 DD-PD rrp.A.a.a

00012-4500 DD-PD rrp.A.a.a

schedule component metamodel (values=hours|green=done|yellow=in progress|blue=ongoing|red=stopped|orange=pending change|purple=planned)

Jan-20 Feb-20 Mar-20 Apr-20 May-20 Jun-20 Jul-20 Aug-20 Sep-20 Oct-20 Nov-20 Dec-20 Level 1 Aug-20 Sep-20 Aug-20 Sep-20 Aug-20 Dec-20 Level 2 Aug-20 Sep-20 Aug-20 Sep-20 Aug-20 Dec-20 Level 2 Aug-20 Sep-20 Aug-20 Aug-20