Gantt Chart UAM

#	Task Name	Duration	Assigned To
1	Project Plan (PPXX-XX)	4d	
2	Organogram (PP04)	2.5d	
3	PP04-01: Organize management tasks	4h	All
4	PP04-02: Organize technical tasks	4h	All
5	Work Flow Diagram (WFD) (PP01)	2.5d	
6	PP01-01: Overview deliverables	4h	All
7	PP01-02: Define Work Packages	12h	All
8	PP01_03: Create WFD	4h	TG
9	Work Breakdown Structure (WBS) (PP02)	2d	
10	PP02-01: Define tasks in work packages	8h	All
11	PP02-02: Create WBS	8h	BH
12	Gantt Chart (PP03)	1.5d	
13	PP03-01: Define duration of tasks	4h	TR
14	PP03-02: Create Gantt Chart	12h	ST/TR
15	Baseline Review (BRXX-XX)	3.75d	
16	BRViP-01:Identify stakeholders	0.5d	
17	BRVIP-01A: Distinguish between advocates, neutral and critics.	4h	AB
18	BRVIP-01B: Generate power/interest grid	2h	TB
19	BRVIP-01C: Document stakeholder identification	4h	AB/TB
20	BRVIP-02: Define Stakeholder Requirements	0.5d	
21	BRVIP-02A: Brainstorm stakeholder needs.	4h	WB
22	BRVIP-02B: Generate Stakeholder Requirements	2h	TG
23	BRVIP-02C: Identify preliminary constraints on design process.	2h	BH
24	BRVIP-03:Research Urbanization	0.5d	
25	BRVIP-03A: Find population growth, population density, rural-urban migration and push & pull factors	4h	DOA
26	BRVIP-03B: Document Urbanization Study	4h	DOA
27	BR12: Document Quantified Market Analysis	2d	
28	BR12-01: Research Users	0.5d	
29	BR12-01A: Brainstorm 3 to 5 use cases for system.	4h	All
30	BRV12-01B: Identify possible locations for the implementation of Urban Air Mobility.	4h	TR
31	BRV12-01:C Document User Study	4h	TR
32	BR12-02: Research Customers/Operations	1d	
33	BR12-02A: Research electricity reliability, crime rate, transport fatality history and air pollution.	8h	ST
34	BR12-02B: Research income disparity and unemployment.	4h	ST
35	BR12-02C: Research median travel time, key transport industries, car ownership and accident rates.	4h	SV
36	BR12-02D: Document Customer/Operation Research	4h	All
37	BR12-03: Research Investment	0.5d	
38	BR12-03A: Identify macroeconomic growth, ease of doing business and domestic industries	4h	PB
39	BR12-03B: Identify current and planned subsidies to transportation services	2h	TG
40	BR12-03C: Document Investment Research.	4h	PB/TG
41	BRViP-04 Group Context Factors	2h	BH
42	BRViP-05: Select Driving Factors	2h	SV
43	BRViP-06: Define Mission Requirements	2h	WB
44	BRViP-07: Brainstorm Use Cases	4h	All
45	BRViP-08: Define User Journey/Case	4h	AB/SV
46	BR05: Functional Flow Diagram (FFD)	0.5d	
47	BR05-01: FFD of infrastructure	4h	TR/PB
48	BR05-02: FFD for vehicle	4h	DOA/ST
49	BR06: Functional Breakdown Diagram (FBD)	0.5d	
50	BR06-01: FBD of infrastructure	4h	BH
51	BR06-02: FBD of vehicle	4h	WB
52	BR07: Requirements Discovery Tree (BR07-01)	0.5d	
53	BR07-01: List the functional requirements	2h	AB
54	BR07-02: List the constraints imposed on the system by various stakeholders	2h	TB
55	BR07-03: Organize the requirements and constraints into an AND tree.	2h	PB
56	BR10-01: Validate Requirements	0.5d	
57	BR10-01A: Validate the requirements using the VALID criteria.	4h	WB/TB
58	BR10-01B: Document the requirements using the identifier, requirement and method of validation used	4h	BH/DOA
59	BR10-02: Finalize System Requirements	2h	TR
60	BR10: Design Option Tree	1.5d	
61	BR10-03: Design Option Tree (Dot) Infrastructure (BR10-03)	0.5d	
62	BR10-03A: Brainstorm urban integration methods	4h	BH
63	BR10-03B: Brainstorm infrastructure security system	4h	PB
64	BR10-03C: Brainstorm user experience of journey	4h	TG
65	BR10-03D: Document ideas in a Design Option Tree (OR-Tree)	4h	BH/PB/TG
66	BR10-04: Design Option Tree (Dot) Vehicle (BR10-04)	0.5d	
67	BR10-04A: Brainstorm propulsion techniques (number of rotors etc)	4h	DOA/TR
68	BR10-04B: Brainstorm aerodynamic characteristics (use of fixed wing)	4h	SV
69	BR10-04C: Brainstorm number of seats and seating arrangement	2h	ST
70	BR10-04D: Brainstorm operating velocity	4h	AB
71	BR10-04E: Document ideas in a Design Option Tree (OR-Tree)	4h	ST
72	BR08: Resource Allocation	0.5d	
73	BR08 – 01: Generate TPM graph	0.5d	
74	BR08 - 01A: Define technical resources	2h	WB
75	BR08 - 01B: Identify maturity phases	2h	TB
76	BR08 - 01C: Determine max value technical resources	4h	ST
77	BR08 - 01D: Determine target value technical resources, each maturity stage	4h	ST
78	BR11: Contingency management	0.75d	
79	BR11-01: Contingency management research	0.75d	
80	BR11-01A : Identify contingency management methods	6h	TR
81	BR11-01B: Link optimal methods to respective parameters	4h	BH
82	Midterm Review (MTR)	15d	
83	MTR18 Operations and logistic concept description	1d	
84	MTR18-01: Brainstorm system infrastructure concepts	8h	AB
85	MTR18-02: Eliminate cleary infeasible options	2h	TB
86	MTR18-03: Eliminate unanalyzable options	2h	PB
87	MTR18-04: Describe landing & off-boarding procedure	4h	WB
88	MTR18-07: Describe vehicle and payload ground journey	2h	TG
89	MTR18-05: Describe refueling procedure	3h	TB
90	MTR18-06: Describe periodic maintenance and inspection procedure	3h	PB
91	MTR18-08: Describe boarding & take-off procedure	3h	WB
92	MTR18-09 Describe air traffic management system (based on infrastructure hubs)	2h	TG
93	MTR34 Configuration/layout internal/external	1d	
94	MTR34-01: Brainstorm vehicle concepts	8h	DOA
95	MTR34-02: Eliminate cleary infeasible options	2h	TR/BH
96	MTR34-03: Eliminate unanalyzable options	2h	ST/SV
97	MTR34-04: Sketch/draw concept (appearance and basic functionality)	4h	SV/ST
98	MTR34-05: Textually describe concept and basic functionality (e.g. how doors open, how wings fold, etc	6h	TR/BH
99	MTR10-01: Update DOT	4h	ST
100	MTR10-02:Final DOT	2h	SV
101	MTR33: Performance Analysis	8h	WB/DOA/TR
102	MTR32 - 01: Determine maintainability	0.5d	
103	MTR32 - 01 - A: Establish criterion for levels of maintainability	4h	AB/ST
104	MTR32 - 01 - B: Grade concepts against criterion for maintainability	4h	AB/ST
105	MTR32 - 02: Determine Availability	0.5d	
106	MTR32 - 02 - A: Establish criterion for levels of availability	4h	PB/BH
107	MTR32 - 02 - B: Grade concepts against criterion for availability	4h	PB/BH
108	MTR32 - 03: Determine Reliability	0.5d	
109	MTR32 - 03 - A: Establish criterion of levels of reliability (concept vs used in real life)	4h	TG/TB
110	MTR32 - 03 - B: Grade concepts against criterion for reliability	4h	TG/TB
111	MTR32 - 04: Determine safety	0.5d	
112	MTR32 - 04 - A: Establish criterion of safety	4h	TB/SV
113	MTR32 - 04 - B: Grade concepts against criterion for safety	4h	TB/SV
114	MTR32: Define RAMS Characteristics	6h	1/2G
115	MTR14-01 Choose trade-off method	0.5d	
116	MTR14-01-A Create overview of different methods	4h	AB/PB
117	MTR14-01-B Perform trade-off to find best suitable method	4h	PB/AB
118	MTR15-01 Establish trade criteria	1d	
119	MTR15-01-A Analyse requirements	4h	WB
120	MTR15-01-B Analyse preliminary concepts and DOT	4h	ST
121	MTR15-01-C Brainstorm for criteria	8h	All
122	MTR15-01-D Analyse the similarities and differences of the concepts	4h	DOA
123	MTR15-01-E Decide on final criteria	4h	TR
124	MTR15-02 Investigate no-go values	0.5d	
125	MTR15-02-A Analyse minimum requirements for different criteria	4h	SV
126	MTR15-02-B Define no-go values based on the requirements	4h	TG
127	MTR15-03 Assess criteria	0.5d	
128	MTR15-03-A Create a distinction between quantifiable and unquantifiable criteria	4h	PB
129	MTR15-03-B Analyse DOT and concepts in terms of criteria	4h	BH
130	MTR15-03-C Quantify the quantifiable criteria	4h	DOA
131	MTR15-03-D Give qualitative scores to unquantifiable criteria	4h	TR
132	MTR16-01: Determine initial weight factors	0.5d	
133	MTR16-01-A Analyse the risk map	4h	WB
134	MTR16-01-B Analyse the sustainable development strategy	4h	SV
135	MTR16-01-C Prioritize leading requirements	4h	BH
136	MTR16-01-D Establish initial weight factors based on the chosen trade-off method	4h	TB
137	MTR16-01-E Document the determination of their values	4h	TG
138	MTR16-02: Score the concepts	0.5d	
139	MTR16-02-A Score the design options	4h	ST/WB

#	Task Name	Duration	Assigned To
140	⊟ MTR16-02-B Perform sensitivity analysis	0.375d	
141	MTR16-02-B.1 Change specific weighting factors	3h	PB
142	MTR16-02-B.2 Reiterate the trade-off	3h	AB
143	MTR16-02-B.3 Review the outcomes	3h	TB
144	MTR16-02-B.4 Finalize weighting factors	3h	TB/PB
145	MTR16-02-C Explain outcomes of sensitivity analysis	4h	AB
146	MTR27-01: Determine sensitivity of Trade Off	6h	ST/BH
147	⊟ MTR17-01: Create Trade summary tables	0.5d	
148	MTR17-01-A Combine results of the trade-off in a table	4h	TR
149	MTR17-01-B Describe the final result from the trade-off	4h	AB
150	MTR17-02 Select winning concept	4h	All
151	⊟ MTR13-01: Break down the concept	1d	
152	MTR13-01-A Make a detailed preliminary description of the winning concept	8h	DOA/AB
153	MTR13-01-B Divide the vehicle and infrastructure into subsystems	4h	TG/SV
154	MTR13-01-C Provide a detailed description of each subsystem	8h	All
155	⊟ MTR13-02: Summarize interactions of the vehicle subsystems into N2 chart	1d	
156	MTR13-02-A Create an overview of inputs and outputs of each subsystem	4h	SV
157	MTR13-02-B Analyse the interaction between the functions of each of the subsystems	8h	ST/TR
158	MTR13-02-C Create the N2 chart	4h	ST
159	⊟ MTR13-03: Summarize interactions of the infrastructure subsystems into N2 chart	1d	
160	MTR13-03-A Create an overview of inputs and outputs of each subsystem	8h	BH/AB
161	MTR13-03-B Analyse the interaction between the functions of each of the subsystems	8h	WB/TG
162	MTR13-03-C Create the N2 chart	4h	TG
163	⊟ MTR13-04: Analyse N2 charts	1d	
164	MTR13-04-A Analyse the N2 charts individually for possible conflicts	8h	DOA
165	MTR13-04-B Analyse the interactions between the vehicle and infrastructure	8h	SV/WB
166	MTR13-04-C Describe how conflicts can be mitigated	4h	AB
167	MTR09: Generate Concept Risk Map	8h	TB
168	MTR04: Upgrade Organigram for Final Phase	1h	TG
169	MTR01: Update WFD for Final Phase	4h	TG
170	MTR02: Update WBS for Final Phase	2h	BH
171	MTR03: Update Gantt Chart for Final Phase	2h	TR
172	Write Midterm Report	8h	All
173	Prepare for Midterm Review	8h	All
174	Peer review	8h	All
175			
176	⊟ Final Phase	17d	TBD
177	⊟ FR12 Update Market Analysis	1d	TBD
178	FR12-01 Research Users	8h	TBD
179	FR12-02 Research Operations	8h	TBD
180	FR12-03 Define Subsystem Requirements	8h	TBD
181	⊟ FR05 Create Functional Flow Diagram	1d	TBD
182	FR05-01 Split up system into vehicle and infrastructure	8h	TBD
183	FR05-02 Specify the interaction between subsystems	8h	TBD
184	FR05-03 Create FFD for vehicle	8h	TBD
185	FR05-04 Create FFD for infrastructure	8h	TBD
186	⊟ FR06 Functional Breakdown Diagram	1d	TBD
187	FR06-01 Define functions of subsystems	8h	TBD
188	FR06-02 Create FBD for vehicle	8h	TBD
189	FR06-03 Create FBD for infrastructure	8h	TBD
190	⊟ FR09 Technical Risk Assessment / Risk Map	1.5d	TBD
191	FR09-01 Identifying technical risks	12h	TBD
192	FR09-02 Rank the risks	12h	TBD
193	FR09-03 Create the risk map		TBD
194	FR09-04 Make a risk mitigation plan	12h	TBD
195	⊟ FR25 Sustainable Development Strategy	1d	TBD
196	FR25-01 Describe how sustainability is taken into account	8h	TBD
197	FR25-02 Describe the relation of the system to sustainability	8h	TBD
198	⊟ FR08 Resource Allocation / Budget Breakdown	1d	TBD
199	FR08-01 Generate TPM Graph	8h	TBD
200	FR08-02 Contingency management research	8h	TBD
201	FR08-03 Contingency management execution	8h	TBD
202	⊟ FR32 RAMS	2d	TBD
203	FR32-01 Determine Reliability	16h	TBD
204	FR32-02 Determine Availability	16h	TBD
205	FR32-03 Determine Maintainability	16h	TBD
206	FR32-04 Determine Safety	16h	TBD
207	FR36 Determine Aircraft System Characteristics	12h	TBD
208	FR37 Determine Aerodynamic Characteristics	12h	TBD
209	FR38 Determine Structural Characteristics	12h	TBD
210	FR39 Determine Stability & Control Characteristics	12h	TBD
211	⊟ FR23 Create Electrical Block Diagram	2d	TBD
212	FR23-01 Describe the electrical equipment of the system	2d	TBD
213	FR23-02 Describe the interactions between the equipment	2d	TBD
214	FR23-03 Create EBD	2d	TBD
215	⊟ FR24 Create Data Handling Block Diagram	1d	TBD
216	FR24-01 Identify the components of the data handling system	8h	TBD
217	FR24-02 Define data flows through the system	8h	TBD
218	FR24-03 Create DHBD	8h	TBD
219	⊟ FR29 Verification & Validation	2d	TBD
220	FR29-01 Verify & validate numerical models used	16h	TBD
221	FR29-02 Verify & validate computer models used	16h	TBD
222	FR29-03 Verify & validate that system meets the requirements	16h	TBD
223	FR29-04 Verify & validate the system as whole	16h	TBD
224	⊟ FR27 Sensitivity Analysis	1d	TBD
225	FR27-01 Observe results of changed major system parameters	8h	TBD
226	FR27-02 Analyse the robustness of the final design	8h	TBD
227	FR27-03 Establish the degree of feasibility of the final design	8h	TBD
228	⊟ FR34 Define Vehicle Configuration and Layout	3d	TBD
229	FR34-01 Illustrate vehicle layout	24h	TBD
230	FR34-02 Illustrate infrastructure layout	24h	TBD
231	⊟ FR18 Operations & Logistic Concept Description	1d	TBD
232	FR18-01 Describe the operations of the system	8h	TBD
233	FR18-02 Describe the logistics of the system	8h	TBD
234	FR18-03 Create an OFBD	8h	TBD
235	FR18-04 Create a LFBD	8h	TBD
236	⊟ FR22 H/W, S/W Block Diagram	1.5d	TBD
237	FR22-01 Divide system into subcomponents	12h	TBD
238	FR22-02 Describe inputs and outputs of subcomponents	12h	TBD
239	FR22-03 Analyse the mutual relation and interactions of subcomponents	12h	TBD
240	FR22-04 Create HWBDs	12h	TBD
241	FR22-05 Create SWBDs	12h	TBD
242	⊟ FR28 Create Communication Flow Diagram	5d	TBD
243	FR28-01 Analyse flow of data in the system	8h	TBD
244	FR28-02 Analyse flow of data from system to environment and back	8h	TBD
245	FR28-03 Create CFD	8h	TBD
246	⊟ FR33 Performance Analysis	1.5d	TBD
247	FR33-01 Quantify performance of the system	12h	TBD
248	FR33-02 Verify compliance of the design with the requirements	12h	TBD
249	FR33-03 Analyse outcomes	12h	TBD
250	⊟ FR26 Create Compliance Matrix	1d	TBD
251	FR26-01 Make an overview of all requirements	8h	TBD
252	FR26-02 Analyse if each requirements is met	8h	TBD
253	FR26-03 Explain outcomes of analysis	8h	TBD
254	FR26-04 Explain necessary modifications	8h	TBD
255	⊟ FR30 Create Production Plan	1.5d	TBD
256	FR30-01 Divide system into parts to be manufactured	12h	TBD
257	FR30-02 Determine timewise schedule of subassembly	12h	TBD
258	FR30-03 Describe how subassemblies are integrated	12h	TBD
259	FR30-04 Create MAI Plan	12h	TBD
260	⊟ FR19 Determine Project Design & Development Logic	1.5d	TBD
261	FR19-01 Determine post-DSE activities to be executed	12h	TBD
262	FR19-02 Analyse logical order of the post-DSE activities	12h	TBD
263	⊟ FR21 Make Cost Breakdown Structure	1d	TBD
264	FR21-01 Analyse the cost of post-DSE activities	8h	TBD
265	FR21-02 Create CBS	8h	TBD
266	⊟ FR31 Analyse ROI	1d	TBD
267	FR31-01 Estimate how many products will be sold	8h	TBD
268	FR31-02 Estimate the total costs of the product	8h	TBD
269	FR31-03 Determine the ROI	8h	TBD
270	⊟ FR20 Create Project Gantt Chart	1d	TBD
271	FR20-01 Estimate duration of the post-DSE activities	8h	TBD
272	FR20-02 Determine start date of the post-DSE activities	8h	TBD
273	FR20-03 Create Project Gantt Chart	8h	TBD