

Task ID	Task Mode	Task Name	Start	Finish	Predecessors	Text10	Text2	Qtr 1, 2021						Qtr 2, 2021			Qtr 3, 2021			Qtr 4, 2021		
			Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec								
1			WP 0 - Project coordination and management		Fri 01.01.21	Wed 31.05.23																
2			Action plan		Mon 18.01.21	Thu 16.12.21																
3			Detailed action plan for January - July 2021		Mon 18.01.21	Mon 08.02.21																
4			Detailed action plan for July - December 2021		Mon 07.06.21	Wed 16.06.21																
5			Written progress report January - July 2021		Thu 01.07.21	Sat 10.07.21																
6			Detailed action plan for January - July 2022		Wed 01.12.21	Thu 16.12.21																
7			Research and innovation plan		Mon 08.03.21	Wed 31.03.21																
8			Final version of research and innovation plan		Mon 08.03.21	Wed 31.03.21																
9			Financial reporting		Mon 29.03.21	Fri 08.10.21																
10			Financial report of first quarter		Mon 29.03.21	Wed 07.04.21																
11			Financial report of second quarter		Thu 01.07.21	Thu 08.07.21																
12			Financial report of third quarter		Fri 01.10.21	Fri 08.10.21																
13			WP 1 - Installation of energy meters, sensors and controllers		Fri 01.01.21	Fri 31.12.21																
14			Current status of buildings and the installed systems		Mon 11.01.21	Fri 30.04.21																
15			Data sheet for existing energy meters and BMS in buildings		Mon 11.01.21	Sun 24.01.21																
16			Documentation of the existing situation in buildings		Mon 25.01.21	Wed 31.03.21	15															
17			Evaluation of proposed pilot buildings, final selection of buildings		Mon 08.03.21	Fri 30.04.21	16															
18			Additional energy meters, sensors, controllers and budget		Mon 29.03.21	Sun 09.05.21	16;14	Kalle Kuusk														
19			Description of additional energy meters and sensors		Mon 29.03.21	Sun 25.04.21	17															
20			Budget estimation of the additional devices		Mon 26.04.21	Sun 09.05.21	19															
21			Public procurements and installation of additional devices		Thu 01.04.21	Tue 30.11.21	19	Kalle Kuusk														
22			Preparation of the procurement documents		Thu 01.04.21	Tue 31.08.21	19															
23			Public procurements and contracts		Tue 01.06.21	Thu 30.09.21	22															
24			Installation of additional devices		Sun 01.08.21	Tue 30.11.21																
25			Intergration of buildings in the platform		Sun 01.08.21	Fri 31.12.21		Kalle Kuusk														
26			Integration of energy meters and indoor climate sensors		Sun 01.08.21	Fri 31.12.21	17;30															
27			WP 2 - Development of platform		Fri 01.01.21	Sat 31.12.22																
28			Design and procurement of the Cloud platform		Mon 18.01.21	Sun 16.05.21		Taivo Kangliaski														
29			Describing technical parameters and functionality of the platform		Mon 18.01.21	Wed 31.03.21																
30			Procurement of Cloud platform		Thu 08.04.21	Sun 16.05.21																
31			Integration API		Sun 01.08.21	Mon 31.01.22		Taivo Kangliaski														
32			Integration API for energy meters, sensors and BMS		Sun 01.08.21	Mon 31.01.22																
33			Business logic development for analytics at all levels		Wed 01.09.21	Tue 01.03.22		Eduard Petlenkov														
34			Business logic for energy efficiency and indoor climate quality estimation		Wed 01.09.21	Tue 01.03.22																
38			Development of APIs for visualisation, user interfaces		Sat 01.05.21	Sat 31.12.22		Taivo Kangliaski														
39			Describing functionality of the user interface		Sat 01.05.21	Thu 30.09.21																
40			User interface mockup		Wed 01.09.21	Sun 31.10.21																
41			Procurement of user interface		Mon 01.11.21	Fri 31.12.21																
45			WP 3 - Development of the models		Fri 01.01.21	Sat 31.12.22																
46			Energy performance audit principles		Mon 11.01.21	Fri 30.09.22		Jarek Kurnitski														
47			Principles for processing measured energy use		Mon 11.01.21	Sun 28.03.21																
48			Developing simulation models of 3 buildings from TalTech campus		Mon 25.01.21	Fri 30.04.21																
49			Comparison of energy efficiency requirements in Nordic countries		Tue 01.06.21	Thu 30.09.21																
50			Energy consumption analyze of all pilot buildings based on existing data		Wed 01.09.21	Fri 31.12.21	16															
52			Simulation models of 3 pilot buildings for normalization methods of energy us		Sun 01.08.21	Thu 30.09.21																
53			Normalization algorithms for energy use (heating and cooling solar degreeday		Fri 01.10.21	Sat 30.04.22																
56			Indoor climate audit principles		Mon 18.01.21	Fri 30.09.22		Martin Thalfeldt														
57			Principles of thermal comfort and indoor air quality assessment		Mon 18.01.21	Fri 30.04.21																
58			Principles of occupants' feedback collection		Mon 15.03.21	Mon 31.05.21																
59			Assessing the indoor climate of all pilot buildings (heating period)		Fri 01.10.21	Mon 28.02.22	16															
61			Assesing occupied times based on energy use and indoor climate parameters		Wed 01.09.21	Thu 31.03.22																
64			Diagnostics, fault-detection and sensor networks		Mon 11.01.21	Sat 31.12.22		Jaan Raik														
65			Collecting available data from pilot buildings		Mon 11.01.21	Wed 31.03.21																
66			Analysis of failure modes based on the available data sets		Thu 01.04.21	Wed 30.06.21																
67			Fault models and hierarchical health map models		Sun 01.08.21	Tue 30.11.21																
68			Fault management algorithm for the building sensor networks (data gaps)		Mon 01.11.21	Thu 30.06.22																
70			Models for benchmarking		Mon 11.01.21	Sat 31.12.22		Juri Belikov														
71			Defining structure and topology of the models		Mon 11.01.21	Wed 30.06.21																
72			Identify the major energy consumers (device level) in the selected buildings		Thu 01.04.21	Wed 30.06.21	17;47															
73			Defining principles for benchmark models		Mon 11.01.21	Mon 31.05.21																
74			Minimal infrastructure required for adequate digiaudit		Wed 01.09.21	Mon 31.01.22																
75			Algorithms for benchmarking and minimal infrastructure		Mon 01.11.21	Sat 31.12.22																

Project: DigiAudit  
Date: Tue 29.06.21

Task

Split

Milestone

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Summary

Project Summary

Inactive Task

Inactive Milestone

Inactive Summary

Manual Task

Duration-only

Manual Summary Rollup

Manual Summary

Start-only

Finish-only

External Tasks

External Milestone

Deadline

Progress

Manual Progress

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Real-time building performance audit Budget for Pilot Project															
TalTech															
		2021 I	2021 II	2021 III	2021 IV	2022	2023	Total	Average monthly gross income						
		3 months	3 months	3 months	3 months	12 months	5 months	€	2021 I	2021 II	2021 III	2021 IV	2022	2023	
Department	Project Management	3	3	3	3	12	5	29							
Smart City Center of Excellence	Kalle Kuusk	8 028	8 028	8 028	8 028	32 112	13 380	77 604	2000	2000	2000	2000	2000	2000	
Smart City Center of Excellence	Consultant for platform development (to be requited)	0	0	4 014	4 014	16 056	0	24 084	0	0	1000	1000	1000	0	
	Research	3	3	3	3	12	5	29							
Department of Civil Engineering and Architecture	Helena Kuivjõgi	1 606	1 606	1 606	1 606	19 267	0	25 690	400	400	400	400	1200	0	
Department of Civil Engineering and Architecture	Alo Mikola	2 408	2 408	2 408	2 408	9 634	0	19 267	600	600	600	600	600	0	
Department of Civil Engineering and Architecture	Tuule Mall Kull	2 269	2 408	2 408	2 408	9 634	0	19 128	600	600	600	600	600	0	
Department of Civil Engineering and Architecture	Hans Kristjan Aljas	1 606	1 606	1 606	1 606	12 042	5 018	23 482	400	400	400	400	750	750	
Department of Civil Engineering and Architecture	Andrea Ferrantelli	1 670	1 800	1 800	1 800	7 200	3 000	17 270	500	500	500	500	500	500	
Department of Civil Engineering and Architecture	Endrik Arumägi	0	1 070	3 211	3 211	12 845	5 352	25 690	0	800	800	800	800	800	
Department of Civil Engineering and Architecture	Seyed Shahabaldin Seyed Salehi	301	0	0	0	0	0	301	900	0	0	0	0	0	
Department of Civil Engineering and Architecture	PhD student (to be requited)	0	0	0	4 817	19 267	8 028	32 112	0	0	0	1200	1200	1200	
Department of Civil Engineering and Architecture	Jarek Kurnitski	2 007	2 007	2 007	2 007	8 028	3 345	19 401	500	500	500	500	500	500	
Department of Civil Engineering and Architecture	Martin Thalfeldt	5 846	6 021	6 021	6 021	24 084	10 035	58 028	1500	1500	1500	1500	1500	1500	
Department of Computer Systems	Lauri Vihman	3 011	3 011	3 011	3 011	12 042	0	24 084	750	750	750	750	750	0	
Department of Computer Systems	PhD student (to be recruited)	0	0	0	4 817	19 267	8 028	32 112	0	0	0	1200	1200	1200	
Department of Computer Systems	Jaan Raik	4 415	4 415	4 415	4 415	17 662	3 345	38 668	1100	1100	1100	1100	1100	500	
Department of Computer Systems	Eduard Petlenkov	5 018	5 018	5 018	5 018	20 070	8 363	48 503	1250	1250	1250	1250	1250	1250	
Department of Computer Systems	Lizaveta Miasayedava	2 408	2 408	2 408	2 408	9 634	0	19 267	600	600	600	600	600	0	
Department of Software Science	Juri Belikov	5 018	5 018	5 018	5 018	20 070	8 363	48 503	1250	1250	1250	1250	1250	1250	
Department of Software Science	PhD student (to be recruited)	0	0	0	4 817	19 267	8 028	32 112	0	0	0	1200	1200	1200	
	Pilot buildings	3	3	3	3	12	5	29							
TalTech Real Estate Office	Janar Küla	4 342	4 415	4 415	4 415	17 662	7 359	42 609	1100	1100	1100	1100	1100	1100	
	Platform development	3	3	3	3	12	5	29							
Department of Software Science	Taivo Kangilaski	6 021	6 021	6 021	6 021	11 239	4 683	40 006	1500	1500	1500	1500	700	700	
Department of Software Science	Jaanus Kaugerand	1 606	2 007	2 007	2 007	8 028	3 345	19 000	400	500	500	500	500	500	
Department of Software Science	Erik Kangilaski	0	0	4 014	4 014	0	0	8 028	0	0	1000	1000	0	0	
	Personnel TOTAL	57 578	59 267	69 436	83 886	325 109	99 671	694 947							
Overhead (15% of salaries)		8 637	8 890	10 415	12 583	48 766	14 951	104 242							
Smart City Center of Excellence	Personnel	8 028	8 028	12 042	12 042	48 168	13 380	101 688							
AR20013CD	Overhead 15%	1 204	1 204	1 806	1 806	7 225	2 007	15 253							
Department of Civil Engineering and Architecture	Personnel	17 713	18 926	21 067	25 884	122 000	34 778	240 368							
AR20013EA2	Overhead 15%	2 657	2 839	3 160	3 883	18 300	5 217	36 055							
Department of Computer Systems	Personnel	14 852	14 852	14 852	19 669	78 674	19 736	162 634							
AR20013IA	Overhead 15%	2 228	2 228	2 228	2 950	11 801	2 960	24 395							
Department of Software Science	Personnel	12 644	13 046	17 060	21 876	58 604	24 419	147 648							
AR20013IT	Overhead 15%	1 897	1 957	2 559	3 281	8 791	3 663	22 147							
Real Estate Office	Personnel	4 342	4 415	4 415	4 415	17 662	7 359	42 609							
AR20013TK	Overhead 15%	651	662	662	662	2 649	1 104	6 391							
Travel costs															
	Total	0	0	0	0	0	0	0							
Equipment															
	Total	0	0	0	90 000	30 000	0	120 000							
Real Estate Office	Installation and integration of additional sensors, energy meters and controllers and existing building automation systems	0	0	0	90 000	30 000		120 000							
								0							
Services															
	Total	0	30 000	0	110 000	80 000	0	220 000							
Smart City Center of Excellence	Cloud Data Store and its integration development	0	30 000	0	30 000	0	0	60 000							
Smart City Center of Excellence	API development for integration of 3rd party service providers	0	0	0	30 000	30 000	0	60 000							
Smart City Center of Excellence	Definition, development and integration of user interfaces	0	0	0	50 000	50 000		100 000							
							0	0							
	TOTAL TalTech costs	66 215	98 157	79 851	296 469	483 875	114 621	1 139 189							
Partners, i.e. local authorities involved															
		2021 I	2021 II	2021 III	2021 IV	2022	2023	Total	Average monthly gross income						
								€	2021 I	2021 II	2021 III	2021 IV	2022	2023	
City of Tallinn	Total	0	2	3	3	12	5	200 122							
	Aado Altmets	0	677	1 016	1 016	4 062	1 693		0	253	253	253	253	253	
	Christina Eller	0	803	1 204	1 204	4 817	2 007		0	300	300	300	300	300	
	Joonas Hendre	0	803	1 204	1 204	4 817	2 007		0	300	300	300	300	300	
	Andrus Parm	0	508	763	763	3 051	1 271		0	190	190	190	190	190	
	Personnel	0	2 791	4 187	4 187	16 746	6 978	34 888	0	1043	1043	1043	1043	1043	
	Overhead 15%	0	419	628	628	2 512	1 047	5 233							
	Installation and integration of additional sensors, energy meters and controllers and existing building automation systems				120 000	40 000		160 000							
City of Tartu	Total	0	6	3	3	12	5	147 247							
	Marek Treufeldt	0	4 134	2 067	2 067				515	515	515	515			
	Christina Astmäe	0	2 143	1 072	1 072				267	267	267	267			
	Harles Link	0	3 211	1 606	1 606				400	400	400	400			
	Meelis Padar	0	3 051	1 525	1 525				380	380	380	380			
	Riho Sell	0	3 051	1 525	1 525				380	380	380	380			
	Personnel	0	15 590	7 795	7 795	19 267	8 028	58 476	1942	1942	1942	1942	1200	1200	
	Overhead 15%	0	2 339	1 169	1 169	2 890	1 204	8 771							
	Installation and integration of additional sensors, energy meters and controllers and existing building automation systems				60 000	20 000		80 000							
	TOTAL LA costs (max 25% of the total project costs)	0	21 139	13 779	193 779	101 416	17 257	347 369							
TOTAL PROJECT COST		66 215	119 296	93 630	490 248	585 291	131 878	1 486 558							

Change compared to the first quarter of 2021

4817

8 028

1927

-26 658

-11 886

Key performance indicators (KPIs)

Goal	Description and metrics	January-July 2021	July-December 2021	January-July 2022	July-December 2022	January-May 2023
Research						
Scientific publications in journals	By the end of the project, 5 publications accepted for publication in high-ranked journals.					x
Scientific publications in conferences	By the end of the project, 10 publications accepted for publication in scientific conferences.					x
Pilot						
Pilot buildings	By May 2021, list and current status of pilot buildings.	x				
	By the end of 2021, all pilot buildings are connected to the DigiAudit platform		x			
Digital platform	By July 2021, working cloud solution for data collection.	x				
	By the end of 2022, working user interface of DigiAudit platform.				x	
Smart City Centre of Excellence						
Future action plan	By June 2022, future action plan for DigiAudit platform.			x		
Intellectual property rights	By the end of the project, intellectual property rights of DigiAudit platform.					x