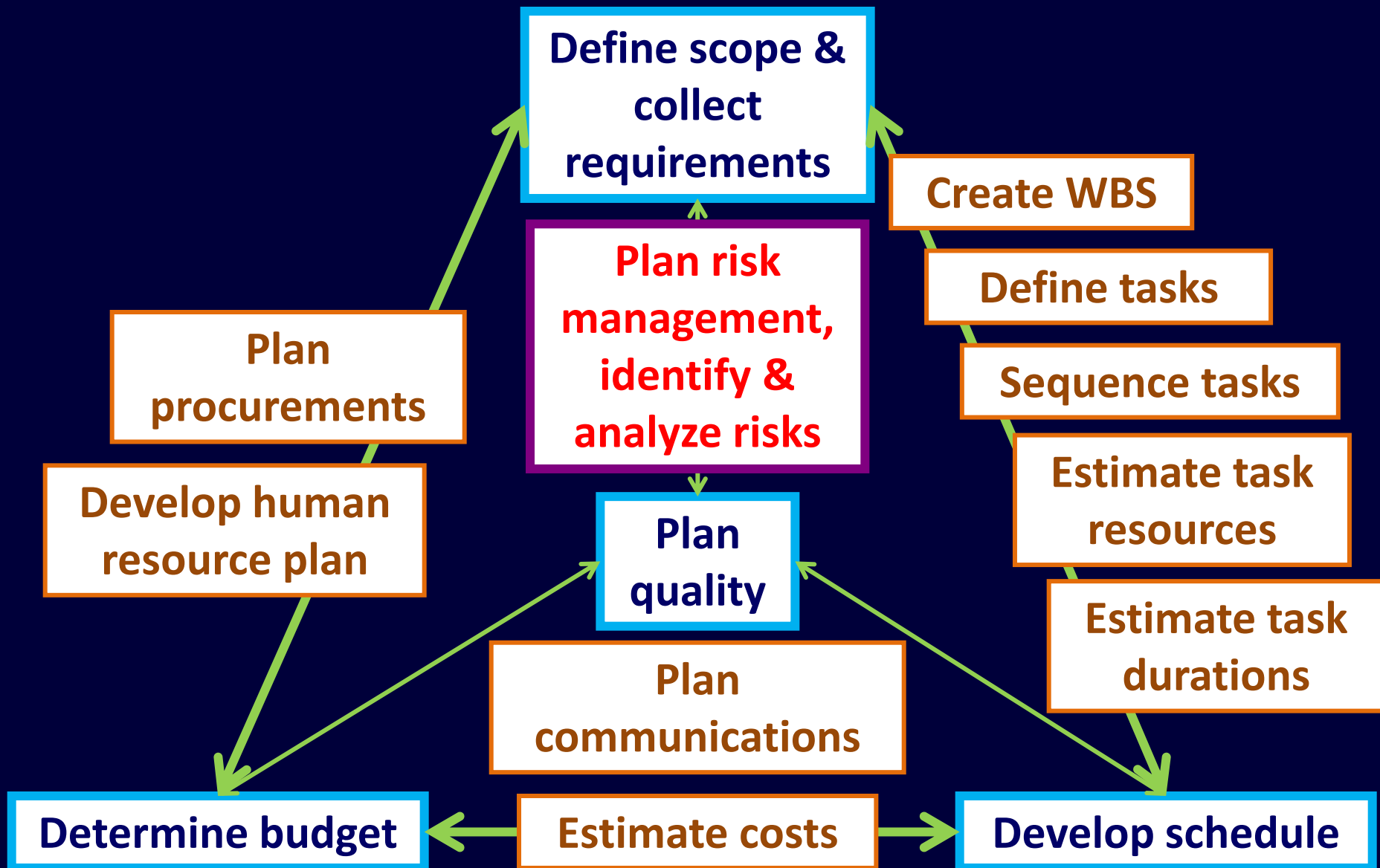


# Project Management

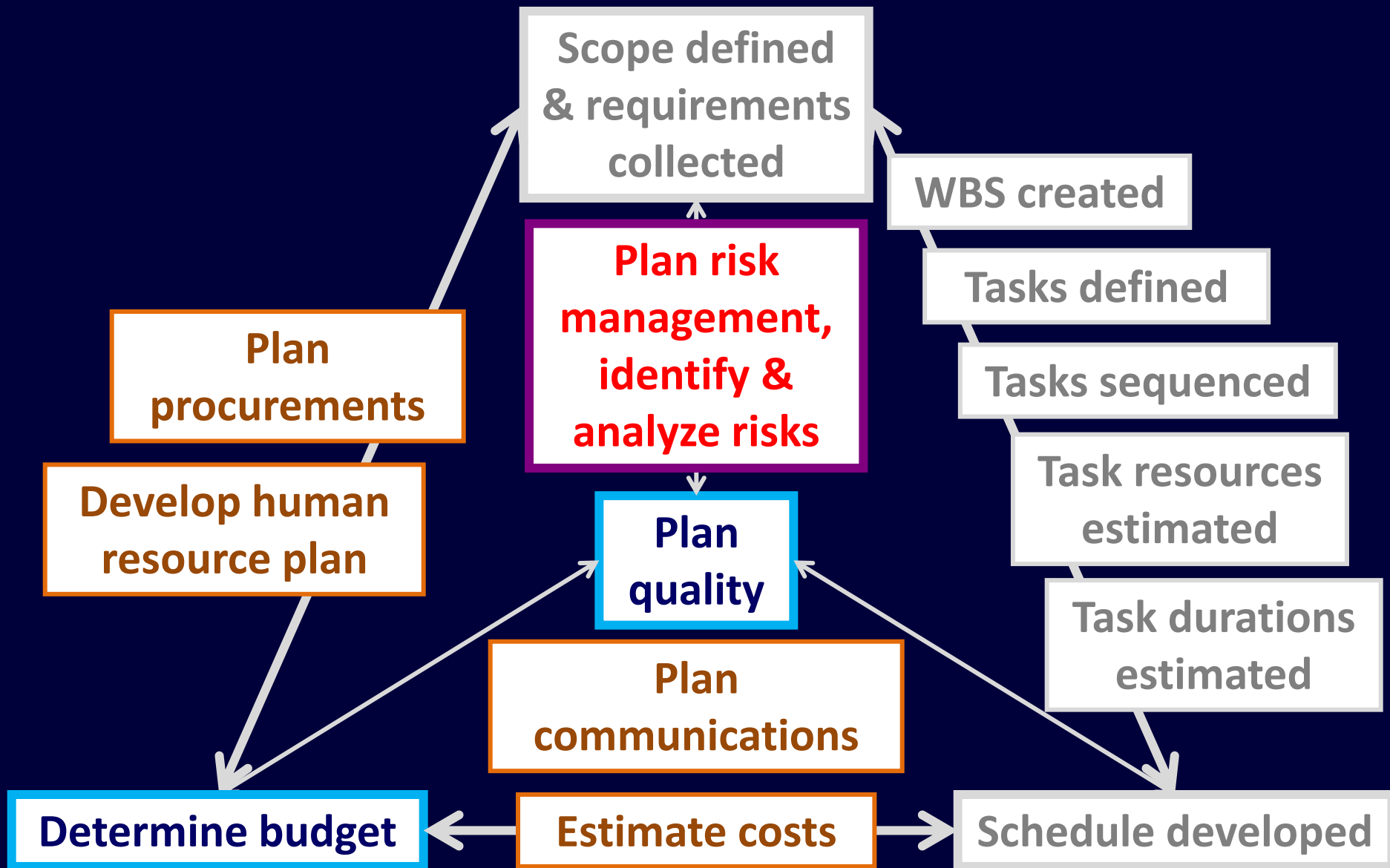
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## Project Planning Costs & Budget

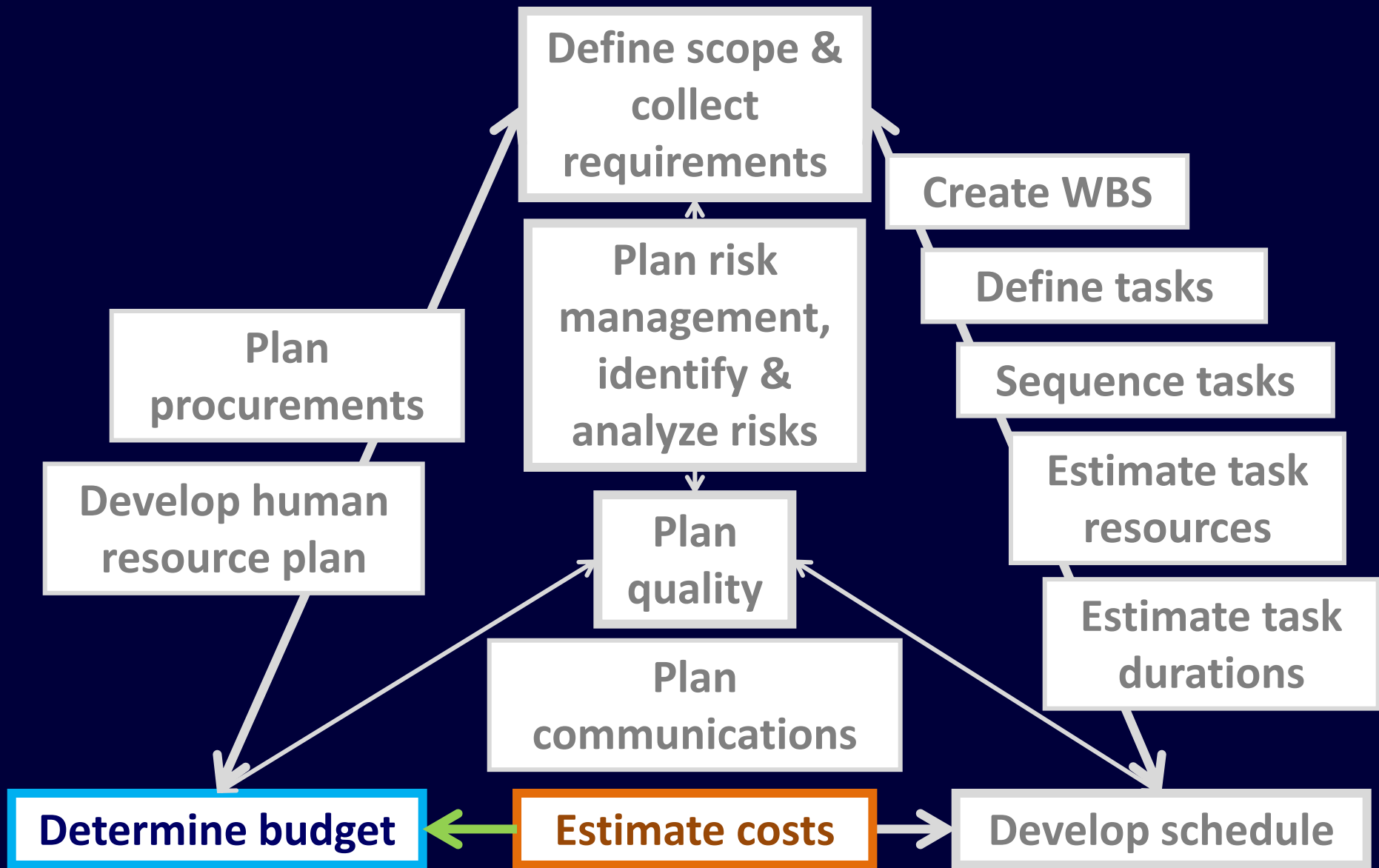
# Project planning processes



# Planning processes: where do we stand?



# Estimate costs & Determine budget



# Estimate costs (1)

- Estimate the **cost of each of the resources** needed to successfully complete the project tasks
- Costs expressed in numbers of monetary units



# Estimate costs (2)

- Estimates may incorporate a “**contingency reserve**” to take into account changes due to the realization of potential risks
- Estimates refined as the project moves forward and more details are available



# Costs (1)

- Labour
- Overhead
- Hiring
- Offices



# Costs (2)

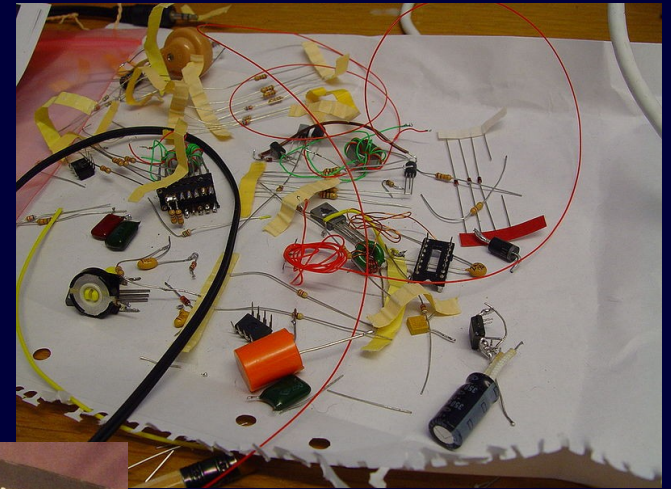
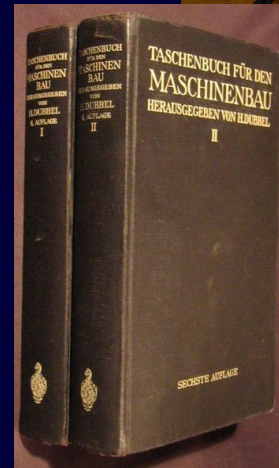
- **Workstations**
- **Servers**
- **Other equipment**
- **Supplies**





# Costs (3)

- Materials
- Documentation
- Competitors' products
- Multimedia assets



# Costs (4)

- Travel
- Events



# Costs (5)

- **Services**
- **Consultancy**
- **Contractors**



# Cost of salaried employees (example)

Weeks per year	52
Days per year excluding weekends	260
Public holidays	10
Total potential workdays	250
Vacation days	30
<b>Total actual workdays in a year</b>	<b>220</b>

<b>Gross annual salary</b>	<b>36,000</b>
Employer's social contributions (%)	50%
Employer's social contributions	18,000
Annual cost excluding overhead	54,000
Overhead (%)	33%
Overhead	17,820
Annual cost including overhead	71,820
<i>Total cost / gross salary</i>	<i>2</i>
<b>Cost per day of work</b>	<b>326</b>

## Taking idle time into account:

✓ add 10% or so to cost per day

or

✓ count 200 workdays per year

➤ **Cost per day = Gross annual salary / 100**

# Project EXONE Contractor's costs (1)

Project manager  
Senior technical consultant  
Junior technical consultant  
Developer 1  
Developer 2  
Tester 1  
Tester 2  
Client  
Travel

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Resource Name	Type	Max. Units	Std. Rate
PM	Work	100%	€ 500.00/day
STC	Work	100%	€ 450.00/day
JTC	Work	100%	€ 350.00/day
DVPR1	Work	100%	€ 400.00/day
DVPR2	Work	100%	€ 350.00/day
TSTR1	Work	100%	€ 300.00/day
TSTR2	Work	100%	€ 300.00/day
CLT	Work	100%	€ 0.00/day
TRAVEL	Cost		

# Project EXONE Contractor's costs (2)

WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost
1	<b>PROJECT EXONE</b>			<b>65 days</b>	<b>03/01/17</b>	<b>03/04/17</b>	<b>177 days</b>	<b>€ 65,225.00</b>
2	<b>REQUIREMENTS</b>			<b>4 days</b>	<b>03/01/17</b>	<b>06/01/17</b>	<b>14 days</b>	<b>€ 4,550.00</b>
3	1.1.1 Review and complete requirements & plan with client		STC; DVPR1; CLT; PM	3 days	03/01/17	05/01/17	12 days	€ 4,050.00
4	1.1.2 Final discussion and agreement with client on req'ts & plan	3	CLT; PM	1 day	06/01/17	06/01/17	2 days	€ 500.00
5	<b>DESIGN</b>			<b>11 days</b>	<b>09/01/17</b>	<b>23/01/17</b>	<b>26 days</b>	<b>€ 10,350.00</b>
6	1.2.1 Write design specifications	4	DVPR1; STC	7 days	09/01/17	17/01/17	14 days	€ 5,950.00
7	1.2.2 Check design with respect to requirements	6	DVPR1; STC; PM[50%]	2 days	18/01/17	19/01/17	5 days	€ 2,200.00
8	1.2.3 Meet with client to discuss & agree on design	7	STC; PM[50%]; DVPR1; CLT	2 days	20/01/17	23/01/17	7 days	€ 2,200.00
9	<b>IMPLEMENTATION</b>			<b>46 days</b>	<b>24/01/17</b>	<b>28/03/17</b>	<b>61 days</b>	<b>€ 22,800.00</b>
10	1.3.1 Coding - Alpha version	8	DVPR2; DVPR1	7 days	24/01/17	01/02/17	14 days	€ 5,250.00
11	1.3.2 Debugging phase 1 (following internal Alpha testing)	27; 10	DVPR2; DVPR1	3 days	06/02/17	08/02/17	6 days	€ 2,250.00
12	1.3.3 Production of Alpha version and delivery to client	22	DVPR2	1 day	10/02/17	10/02/17	1 day	€ 350.00
13	1.3.4 Debugging phase 2 (following client Alpha testing)	28	DVPR1; DVPR2	2 days	15/02/17	16/02/17	4 days	€ 1,500.00
14	1.3.5 Coding - Beta version	13	DVPR2; DVPR1	8 days	17/02/17	28/02/17	16 days	€ 6,000.00
15	1.3.6 Debugging phase 3 (following internal Beta testing)	29; 14	DVPR2; DVPR1	3 days	02/03/17	06/03/17	6 days	€ 2,250.00
16	1.3.7 Production of Beta version and delivery to client	24	DVPR2	1 day	09/03/17	09/03/17	1 day	€ 350.00
17	1.3.8 Debugging phase 4 (following client Beta testing)	30	DVPR1; DVPR2	4 days	16/03/17	21/03/17	8 days	€ 3,000.00
18	1.3.9 Production of Final version and delivery to client	17	DVPR2	1 day	22/03/17	22/03/17	1 day	€ 350.00
19	1.3.10 Debugging phase 5 & delivery (following client Final testing)	31	DVPR2; DVPR1	2 days	27/03/17	28/03/17	4 days	€ 1,500.00
20	<b>INTEGRATION</b>			<b>23 days</b>	<b>06/02/17</b>	<b>08/03/17</b>	<b>5 days</b>	<b>€ 1,050.00</b>
21	1.4.1 Delivery of content subset by client	11FF-2 days	CLT	1 day	06/02/17	06/02/17	1 day	€ 0.00
22	1.4.2 Integration of content subset	21; 11	DVPR2	1 day	09/02/17	09/02/17	1 day	€ 350.00
23	1.4.3 Delivery of complementary content by client	15FF-2 days	CLT	1 day	02/03/17	02/03/17	1 day	€ 0.00
24	1.4.4 Integration of complementary content	23; 15	DVPR2	2 days	07/03/17	08/03/17	2 days	€ 700.00
25	<b>TESTING &amp; ACCEPTANCE</b>			<b>47 days</b>	<b>24/01/17</b>	<b>29/03/17</b>	<b>32.5 days</b>	<b>€ 7,675.00</b>
26	1.5.1 Prepare test plan and test cases	8	STC[50%]; JTC	5 days	24/01/17	30/01/17	7.5 days	€ 2,875.00
27	1.5.2 Internal testing - Alpha version	10SS+3 days; 26	TSTR1; TSTR2	4 days	31/01/17	03/02/17	8 days	€ 2,400.00
28	1.5.3 Alpha testing by client	12	CLT	2 days	13/02/17	14/02/17	2 days	€ 0.00
29	1.5.4 Internal testing - Beta version	14SS+5 days	TSTR1; TSTR2	4 days	24/02/17	01/03/17	8 days	€ 2,400.00
30	1.5.5 Beta testing by client	16	CLT	4 days	10/03/17	15/03/17	4 days	€ 0.00
31	1.5.6 Final testing by client	18	CLT	2 days	23/03/17	24/03/17	2 days	€ 0.00
32	1.5.7 Acceptance by client	19	CLT	1 day	29/03/17	29/03/17	1 day	€ 0.00
33	<b>DEPLOYMENT AT CLIENT'S SITE</b>	32	DVPR2; JTC; TRAVEL[€ 750.00]	<b>2 days</b>	<b>30/03/17</b>	<b>31/03/17</b>	<b>4 days</b>	<b>€ 2,150.00</b>
34	<b>PROJECT MANAGEMENT (After Req'ts WP &amp; before Closure)</b>	2; 33FF	PM[50%]	<b>60 days</b>	<b>09/01/17</b>	<b>31/03/17</b>	<b>30 days</b>	<b>€ 15,000.00</b>
35	<b>PROJECT CLOSURE</b>	34	DVPR1; PM; STC; TSTR1; CLT[50%]	<b>1 day</b>	<b>03/04/17</b>	<b>03/04/17</b>	<b>4.5 days</b>	<b>€ 1,650.00</b>

# EXONE Contractor's non-labour cost

WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost
1	<b>PROJECT EXONE</b>			<b>65 days</b>	<b>03/01/17</b>	<b>03/04/17</b>	<b>177 days</b>	<b>€ 65,225.00</b>
2	<b>REQUIREMENTS</b>			<b>4 days</b>	<b>03/01/17</b>	<b>06/01/17</b>	<b>14 days</b>	<b>€ 4,550.00</b>
3	1.1.1 Review and complete requirements & plan with client		STC;DVPR1;CLT;PM	3 days	03/01/17	05/01/17	12 days	€ 4,050.00
4	1.1.2 Final discussion and agreement with client on req'ts & plan	3	CLT;PM	1 day	06/01/17	06/01/17	2 days	€ 500.00
5	<b>DESIGN</b>			<b>11 days</b>	<b>09/01/17</b>	<b>23/01/17</b>	<b>26 days</b>	<b>€ 10,350.00</b>
6	1.2.1 Write design specifications	4	DVPR1;STC	7 days	09/01/17	17/01/17	14 days	€ 5,950.00
7	1.2.2 Check design with respect to requirements	6	DVPR1;STC;PM[50%]	2 days	18/01/17	19/01/17	5 days	€ 2,200.00
8	1.2.3 Meet with client to discuss & agree on design	7	STC;PM[50%];DVPR1;CLT	2 days	20/01/17	23/01/17	7 days	€ 2,200.00
9	<b>IMPLEMENTATION</b>			<b>46 days</b>	<b>24/01/17</b>	<b>28/03/17</b>	<b>61 days</b>	<b>€ 22,800.00</b>
10	1.3.1 Coding - Alpha		DVPR2;DVPR1	7 days	24/01/17	01/02/17	14 days	€ 5,250.00
11	1.3.2 Debugging phase		DVPR2;DVPR1	3 days	06/02/17	08/02/17	6 days	€ 2,250.00
12	1.3.3 Production of Alpha version		DVPR2	1 day	10/02/17	10/02/17	1 day	€ 350.00
13	1.3.4 Debugging phase		DVPR1;DVPR2	2 days	15/02/17	16/02/17	4 days	€ 1,500.00
14	1.3.5 Coding - Beta		DVPR2;DVPR1	8 days	17/02/17	28/02/17	16 days	€ 6,000.00
15	1.3.6 Debugging phase		DVPR2;DVPR1	3 days	02/03/17	06/03/17	6 days	€ 2,250.00
16	1.3.7 Production of Beta version		DVPR2	1 day	09/03/17	09/03/17	1 day	€ 350.00
17	1.3.8 Debugging phase		DVPR1;DVPR2	4 days	16/03/17	21/03/17	8 days	€ 3,000.00
18	1.3.9 Production of Final version		DVPR2	1 day	22/03/17	22/03/17	1 day	€ 350.00
19	1.3.10 Debugging phase		DVPR2;DVPR1	2 days	27/03/17	28/03/17	4 days	€ 1,500.00
20	<b>INTEGRATION</b>			<b>23 days</b>	<b>06/02/17</b>	<b>08/03/17</b>	<b>5 days</b>	<b>€ 1,050.00</b>
21	1.4.1 Delivery of complete system		CLT	1 day	06/02/17	06/02/17	1 day	€ 0.00
22	1.4.2 Integration of client system		TSTR1	1 day	09/02/17	09/02/17	1 day	€ 350.00
23	1.4.3 Delivery of complete system		CLT	1 day	02/03/17	02/03/17	1 day	€ 0.00
24	1.4.4 Integration of client system		TSTR2	2 days	07/03/17	08/03/17	2 days	€ 700.00
25	<b>TESTING &amp; ACCEPTANCE</b>			<b>47 days</b>	<b>24/01/17</b>	<b>29/03/17</b>	<b>32.5 days</b>	<b>€ 7,675.00</b>
26	1.5.1 Prepare test plan		CLT	5 days	24/01/17	30/01/17	7.5 days	€ 2,875.00
27	1.5.2 Internal testing		TSTR1;TSTR2	4 days	31/01/17	03/02/17	8 days	€ 2,400.00
28	1.5.3 Alpha testing by client		CLT	2 days	13/02/17	14/02/17	2 days	€ 0.00
29	1.5.4 Internal testing - Beta version		TSTR1;TSTR2	4 days	24/02/17	01/03/17	8 days	€ 2,400.00
30	1.5.5 Beta testing by client	16	CLT	4 days	10/03/17	15/03/17	4 days	€ 0.00
31	1.5.6 Final testing by client	18	CLT	2 days	23/03/17	24/03/17	2 days	€ 0.00
32	1.5.7 Acceptance by client	19	CLT	1 day	29/03/17	29/03/17	1 day	€ 0.00
33	<b>DEPLOYMENT AT CLIENT'S SITE</b>	32	DVPR2;JTC;TRAVEL[€ 750.00]	<b>2 days</b>	<b>30/03/17</b>	<b>31/03/17</b>	<b>4 days</b>	<b>€ 2,150.00</b>
34	<b>PROJECT MANAGEMENT (After Req'ts WP &amp; before Closure)</b>	2;33FF	PM[50%]	<b>60 days</b>	<b>09/01/17</b>	<b>31/03/17</b>	<b>30 days</b>	<b>€ 15,000.00</b>
35	<b>PROJECT CLOSURE</b>	34	DVPR1;PM;STC;TSTR1;CLT[50%]	<b>1 day</b>	<b>03/04/17</b>	<b>03/04/17</b>	<b>4.5 days</b>	<b>€ 1,650.00</b>

# Project EXONE Client's costs (1)

Overall project manager

Editor 1

Editor 2

Editor 3

Editor 4

Data engineer

Proofreader 1

Proofreader 2

Testing service provider

Contractor

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Contractor's cost (price)

Hardware (& software)

Multimedia asset licences

Travel

Resource Name	Type	Max. Units	Std. Rate
OPM	Work	100%	€ 450.00/day
EDTR1	Work	100%	€ 300.00/day
EDTR2	Work	100%	€ 300.00/day
EDTR3	Work	100%	€ 300.00/day
EDTR4	Work	100%	€ 300.00/day
DATENG	Work	100%	€ 400.00/day
PRFRDR1	Work	100%	€ 250.00/day
PRFRDR2	Work	100%	€ 250.00/day
TSTSP	Work	100%	€ 350.00/day
CTR	Work	100%	€ 0.00/day
CTR_COST	Cost		
HW	Material		€ 3,000.00
MMLIC	Material		€ 2,000.00
TRAVEL	Cost		



# Project EXONE Client's costs (2)

WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost
1	<b>PROJECT EXONE</b>			<b>66 days</b>	<b>03/01/17</b>	<b>04/04/17</b>	<b>200 day</b>	<b>€ 145,734.00</b>
2	<b>REQUIREMENTS</b>			<b>4 days</b>	<b>03/01/17</b>	<b>06/01/17</b>	<b>11 day</b>	<b>€ 4,000.00</b>
3	1.1.1 Review and complete requirements & plan with contractor		CTR;OPM;DATENG;TRAVEL[€ 1,000.00]	3 days	03/01/17	05/01/17	9 day	€ 3,550.00
4	1.1.2 Final discussion and agreement with contractor on req'ts & plan	3	CTR;OPM	1 day	06/01/17	06/01/17	2 day	€ 450.00
5	<b>SOFTWARE DESIGN</b>			<b>11 days</b>	<b>09/01/17</b>	<b>23/01/17</b>	<b>12 day</b>	<b>€ 850.00</b>
6	1.2.1 Write and check design specifications	4	CTR	9 days	09/01/17	19/01/17	9 day	€ 0.00
7	1.2.2 Meet with contractor to discuss & agree on design	6	OPM[50%];CTR;TRAVEL[€ 400.00]	2 days	20/01/17	23/01/17	3 day	€ 850.00
8	<b>SOFTWARE IMPLEMENTATION</b>			<b>46 days</b>	<b>24/01/17</b>	<b>28/03/17</b>	<b>35 day</b>	<b>€ 0.00</b>
9	1.3.1 Coding, internal testing & bug fixing - Alpha version	7	CTR	12 days	24/01/17	08/02/17	12 day	€ 0.00
10	1.3.2 Delivery of Alpha version by contractor	21	CTR	1 day	10/02/17	10/02/17	1 da	€ 0.00
11	1.3.3 Debugging following Alpha testing	28	CTR	2 days	15/02/17	16/02/17	2 day	€ 0.00
12	1.3.4 Coding, internal testing & bug fixing - Beta version	11	CTR	12 days	17/02/17	06/03/17	12 day	€ 0.00
13	1.3.5 Delivery of Beta version by contractor	25;12	CTR	1 day	09/03/17	09/03/17	1 da	€ 0.00
14	1.3.6 Debugging following Beta testing	29	CTR	4 days	16/03/17	21/03/17	4 day	€ 0.00
15	1.3.7 Delivery of Final version by contractor	14	CTR	1 day	22/03/17	22/03/17	1 da	€ 0.00
16	1.3.8 Debugging following Final testing & delivery for acceptance	30	CTR	2 days	27/03/17	28/03/17	2 day	€ 0.00
17	<b>CONTENT CREATION &amp; INTEGRATION</b>			<b>32 days</b>	<b>24/01/17</b>	<b>08/03/17</b>	<b>69 day</b>	<b>€ 19,800.00</b>
18	1.4.1 Creation of content subset	7	EDTR1;EDTR2;EDTR3;EDTR4	6 days	24/01/17	31/01/17	24 day	€ 7,200.00
19	1.4.2 Proofreading of content subset	18SS+4 days	PRFRDR1;PRFRDR2	3 days	30/01/17	01/02/17	6 day	€ 1,500.00
20	1.4.3 Preparation of content subset & delivery to contractor	9FF-2 days;19	DATENG	3 days	02/02/17	06/02/17	3 day	€ 1,200.00
21	1.4.4 Integration of content subset	20;9	CTR	1 day	09/02/17	09/02/17	1 da	€ 0.00
22	1.4.5 Creation of complementary content	28	EDTR1;EDTR2;EDTR3;EDTR4	6 days	15/02/17	22/02/17	24 day	€ 7,200.00
23	1.4.6 Proofreading of complementary content	22SS+4 days	PRFRDR1;PRFRDR2	3 days	21/02/17	23/02/17	6 day	€ 1,500.00
24	1.4.7 Preparation of complementary content & delivery to contractor	12FF-2 days;23	DATENG	3 days	28/02/17	02/03/17	3 day	€ 1,200.00
25	1.4.8 Integration of complementary content	24;12	CTR	2 days	07/03/17	08/03/17	2 day	€ 0.00
26	<b>TESTING &amp; ACCEPTANCE</b>			<b>41 days</b>	<b>01/02/17</b>	<b>29/03/17</b>	<b>33.5 day</b>	<b>€ 10,375.00</b>
27	1.5.1 Prepare test plan and test cases	18	EDTR1;EDTR2	4 days	01/02/17	06/02/17	8 day	€ 2,400.00
28	1.5.2 Alpha testing	10;27	EDTR3;EDTR4	2 days	13/02/17	14/02/17	4 day	€ 1,200.00
29	1.5.3 Beta testing	13	EDTR3;EDTR4;TSTSP	4 days	10/03/17	15/03/17	12 day	€ 3,800.00
30	1.5.4 Final testing	15	EDTR3;EDTR4;TSTSP[50%]	2 days	23/03/17	24/03/17	5 day	€ 1,550.00
31	1.5.5 Acceptance	16	OPM[50%];EDTR1;EDTR2;EDTR3;EDTR4	1 day	29/03/17	29/03/17	4.5 day	€ 1,425.00
32	<b>DEPLOYMENT</b>	31	CTR	<b>2 days</b>	<b>30/03/17</b>	<b>31/03/17</b>	<b>2 day</b>	<b>€ 0.00</b>
33	<b>PROJECT MANAGEMENT (After Req'ts WP &amp; before Closure)</b>	2;32FF	OPM[50%]	<b>60 days</b>	<b>09/01/17</b>	<b>31/03/17</b>	<b>30 day</b>	<b>€ 13,500.00</b>
34	<b>CONTRACTOR'S PROJECT CLOSURE</b>	33	OPM[50%];CTR;TRAVEL[€ 250.00]	<b>1 day</b>	<b>03/04/17</b>	<b>03/04/17</b>	<b>1.5 day</b>	<b>€ 475.00</b>
35	<b>OVERALL PROJECT CLOSURE</b>	34	DATENG;EDTR1;EDTR3;OPM;EDTR2;EDTR4	<b>1 day</b>	<b>04/04/17</b>	<b>04/04/17</b>	<b>6 day</b>	<b>€ 2,050.00</b>
36	1.10 COST OF WORK DONE BY CONTRACTOR		CTR_COST[€ 89,684.00]				0 day	€ 89,684.00
37	1.11 OTHER NON-LABOUR COSTS		HW[1];MMLIC[1]				0 day	€ 5,000.00

# EXONE Client's non-labour costs (MPP)

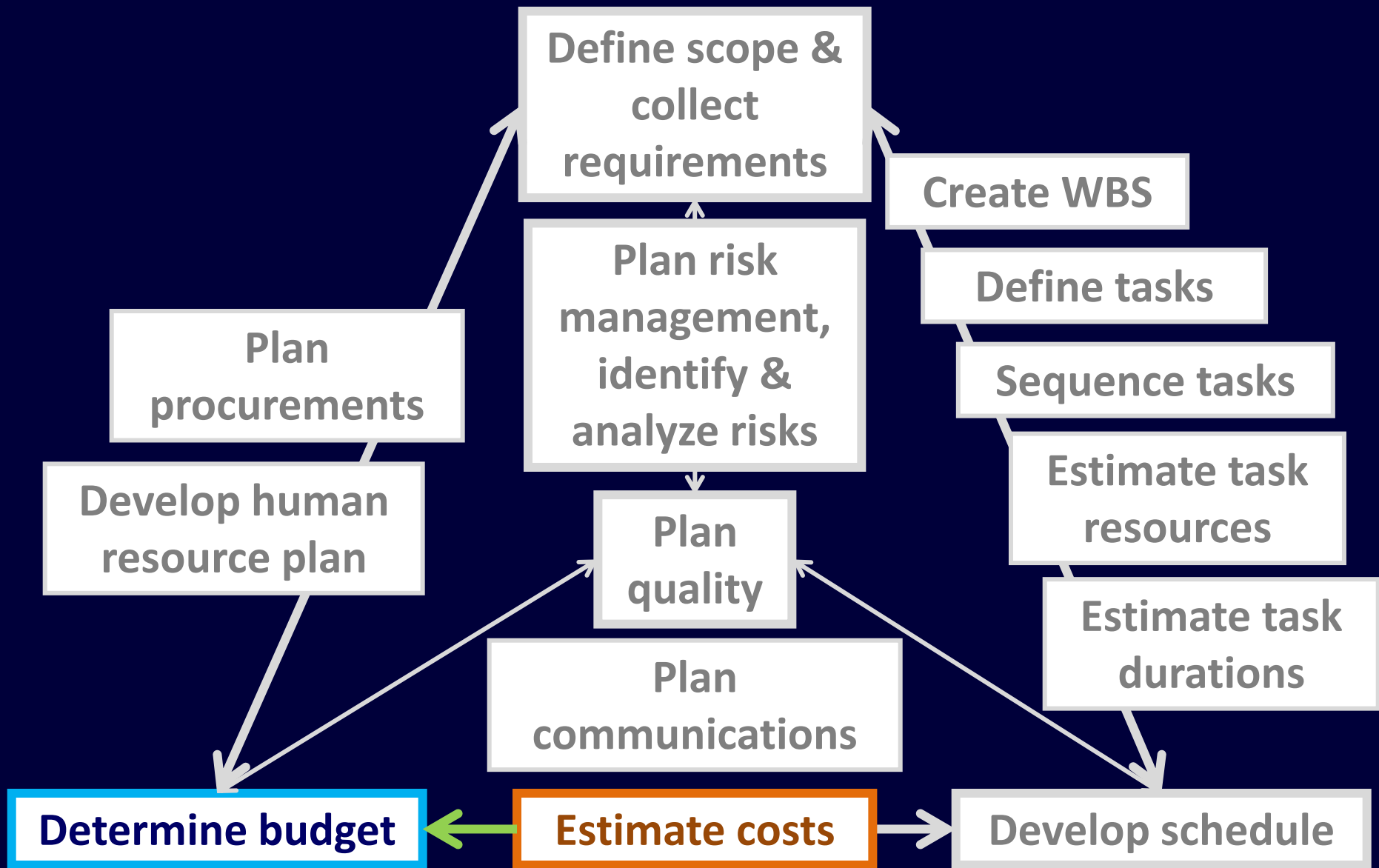
WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost				
1	PROJECT EXONE			66 days	03/01/17	04/04/17	200 days	€ 145,734.00				
1.1	REQUIREMENTS			4 days	03/01/17	06/01/17	11 days	€ 4,000.00				
1.1.1	Review and complete requirements & plan with contractor		CTR;OPM;DATENG;TRAVEL[€ 1,000.00]	3 days	03/01/17	05/01/17	9 days	€ 3,550.00				
1.1.2	Final discussion and agreement with contractor on req'ts & plan	3	CTR;OPM	1 day	06/01/17	06/01/17	2 days	€ 450.00				
1.2	SOFTWARE DESIGN			11 days	09/01/17	23/01/17	12 days	€ 850.00				
1.2.1	Write and check		CTR	9 days	09/01/17	19/01/17	9 days	€ 0.00				
1.2.2	Meet with contractor		OPM[50%];CTR;TRAVEL[€ 400.00]	2 days	20/01/17	23/01/17	3 days	€ 850.00				
1.3	SOFTWARE IMPLEMENTATION			46 days	24/01/17	28/03/17	35 days	€ 0.00				
1.3.1	Coding, internal		OPM	100%	€ 450.00/day	CTR	12 days	24/01/17	08/02/17	12 days	€ 0.00	
1.3.2	Delivery of Alpha		EDTR1	Work	100%	€ 300.00/day	CTR	1 day	10/02/17	10/02/17	1 day	€ 0.00
1.3.3	Debugging follow		EDTR2	Work	100%	€ 300.00/day	CTR	2 days	15/02/17	16/02/17	2 days	€ 0.00
1.3.4	Coding, internal		EDTR3	Work	100%	€ 300.00/day	CTR	12 days	17/02/17	06/03/17	12 days	€ 0.00
1.3.5	Delivery of Beta		EDTR4	Work	100%	€ 300.00/day	CTR	1 day	09/03/17	09/03/17	1 day	€ 0.00
1.3.6	Debugging follow		EDTR1;EDTR2;EDTR3;EDTR4	6 days	24/01/17	31/01/17	24 days	€ 7,200.00				
1.3.7	Delivery of Final		PRFRDR1;PRFRDR2	3 days	30/01/17	01/02/17	6 days	€ 1,500.00				
1.3.8	Debugging follow		PRFRDR1;PRFRDR2	3 days	21/02/17	23/02/17	6 days	€ 1,500.00				
1.4	CONTENT CREATION			32 days	24/01/17	08/03/17	69 days	€ 19,800.00				
1.4.1	Creation of content		DATENG	Work	100%	€ 400.00/day	CTR	2 days	07/03/17	08/03/17	2 days	€ 0.00
1.4.2	Proofreading of content		PRFRDR1	Work	100%	€ 250.00/day	EDTR1;EDTR2;EDTR3;EDTR4	4 days	01/02/17	06/02/17	3 days	€ 1,200.00
1.4.3	Preparation of content		PRFRDR2	Work	100%	€ 250.00/day	DATENG	3 days	02/02/17	06/02/17	3 days	€ 1,200.00
1.4.4	Integration of content		TSTSP	Work	100%	€ 350.00/day	CTR	1 day	09/02/17	09/02/17	1 day	€ 0.00
1.4.5	Creation of content		DATENG	Work	100%	€ 400.00/day	EDTR1;EDTR2;EDTR3;EDTR4	6 days	15/02/17	22/02/17	24 days	€ 7,200.00
1.4.6	Proofreading of content		TSTSP	Work	100%	€ 350.00/day	PRFRDR1;PRFRDR2	3 days	21/02/17	23/02/17	6 days	€ 1,500.00
1.4.7	Preparation of content		DATENG	Work	100%	€ 400.00/day	DATENG	3 days	28/02/17	02/03/17	3 days	€ 1,200.00
1.4.8	Integration of content		CTR	Work	100%	€ 0.00/day	CTR	2 days	07/03/17	08/03/17	2 days	€ 0.00
1.5	TESTING & ACCEPTANCE			41 days	01/02/17	29/03/17	33.5 days	€ 10,375.00				
1.5.1	Prepare test plan		CTR_COST	Cost			EDTR1;EDTR2	4 days	01/02/17	06/02/17	8 days	€ 2,400.00
1.5.2	Alpha testing		HW	Material	€ 3,000.00		EDTR3;EDTR4	2 days	13/02/17	14/02/17	4 days	€ 1,200.00
1.5.3	Beta testing		MMLIC	Material	€ 2,000.00		EDTR3;EDTR4;TSTSP	4 days	10/03/17	15/03/17	12 days	€ 3,800.00
1.5.4	Final testing		MMLIC	Material	€ 2,000.00		EDTR3;EDTR4;TSTSP[50%]	2 days	23/03/17	24/03/17	5 days	€ 1,550.00
1.5.5	Acceptance		TRAVEL	Cost			OPM[50%];EDTR1;EDTR2;EDTR3;EDTR4	1 day	29/03/17	29/03/17	4.5 days	€ 1,425.00
1.6	DEPLOYMENT						CTR	2 days	30/03/17	31/03/17	2 days	€ 0.00
1.7	PROJECT MANAGEMENT						OPM[50%]	60 days	09/01/17	31/03/17	30 days	€ 13,500.00
1.8	CONTRACTOR'S PROJECT CLOSURE	33					OPM[50%];CTR;TRAVEL[€ 250.00]	1 day	03/04/17	03/04/17	1.5 days	€ 475.00
1.9	OVERALL PROJECT CLOSURE	34					DATENG;EDTR1;EDTR3;OPM;EDTR2;EDTR4	1 day	04/04/17	04/04/17	6 days	€ 2,050.00
1.10	COST OF WORK DONE BY CONTRACTOR						CTR_COST[€ 89,684.00]				0 days	€ 89,684.00
1.11	OTHER NON-LABOUR COSTS						HW[1];MMLIC[1]				0 days	€ 5,000.00

# EXONE Client's non-labour costs (POD)

	WBS	Nom	Prédécesseurs	Noms des ressources	Durée	Début	Fin	Travail	Coût
1	1	PROJECT EXONE			66 jours	03/01/17 08:00	04/04/17 17:00	1 600 heures	145734,00 €
2	1.1	REQUIREMENTS			4 jours	03/01/17 08:00	06/01/17 17:00	88 heures	4000,00 €
3	1.1.1	Review and complete requirements & plan with contractor		CTR;DATENG;OPM;TRAVEL1	3 jours	03/01/17 08:00	05/01/17 17:00	72 heures	3550,00 €
4	1.1.3	Final discussion and agreement with contractor on req'ts & plan	3	CTR;OPM	1 jour	06/01/17 08:00	06/01/17 17:00	16 heures	450,00 €
5	1.2	SOFTWARE DESIGN			11 jours	09/01/17 08:00	23/01/17 17:00	96 heures	850,00 €
6	1.2.1	Write & check design specifications	4	CTR	9 jours	09/01/17 08:00	19/01/17 17:00	72 heures	0,00 €
7	1.2.3	Meet with contractor to discuss & agree on design	6	CTR;OPM[50 %];TRAVEL2	2 jours	20/01/17 08:00	23/01/17 17:00	24 heures	850,00 €
8	1.3	IMPLEMENTATION, INTEGRATION, TESTING & ACCEPTANCE			47 jours	24/01/17 08:00	29/03/17 17:00	1 100 heures	30175,00 €
9	1.3.1	Coding, int			12 jours	24/01/17 08:00	08/02/17 17:00	96 heures	0,00 €
10	1.3.2	Creation of			6 jours	24/01/17 08:00	31/01/17 17:00	192 heures	7200,00 €
11	1.3.3	Prepare tes		OPM	4 jours	01/02/17 08:00	06/02/17 17:00	64 heures	2400,00 €
12	1.3.4	Proofreadi		EDTR1	3 jours	30/01/17 08:00	01/02/17 17:00	48 heures	1500,00 €
13	1.3.5	Preparatio		EDTR2	3 jours	02/02/17 08:00	06/02/17 17:00	24 heures	1200,00 €
14	1.3.6	Integratio		EDTR3	1 jour	09/02/17 08:00	09/02/17 17:00	8 heures	0,00 €
15	1.3.7	Delivery of		EDTR4	1 jour	10/02/17 08:00	10/02/17 17:00	8 heures	0,00 €
16	1.3.8	Alpha testi		EDTR4	2 jours	13/02/17 08:00	14/02/17 17:00	32 heures	1200,00 €
17	1.3.9	Creation of		PRFRDR1	6 jours	15/02/17 08:00	22/02/17 17:00	192 heures	7200,00 €
18	1.3.10	Proofreadi		PRFRDR2	3 jours	21/02/17 08:00	23/02/17 17:00	48 heures	1500,00 €
19	1.3.11	Debugging		DATENG	2 jours	15/02/17 08:00	16/02/17 17:00	16 heures	0,00 €
20	1.3.12	Coding, int		DATENG	12 jours	17/02/17 08:00	06/03/17 17:00	96 heures	0,00 €
21	1.3.13	Preparatio		TSTSP	3 jours	28/02/17 08:00	02/03/17 17:00	24 heures	1200,00 €
22	1.3.14	Integratio		CTR	2 jours	07/03/17 08:00	08/03/17 17:00	16 heures	0,00 €
23	1.3.15	Delivery of		CTR_COST	1 jour	09/03/17 08:00	09/03/17 17:00	8 heures	0,00 €
24	1.3.16	Beta testin		HW	4 jours	10/03/17 08:00	15/03/17 17:00	96 heures	3800,00 €
25	1.3.17	Debugging		MMLIC	4 jours	16/03/17 08:00	21/03/17 17:00	32 heures	0,00 €
26	1.3.18	Delivery of		MMLIC	1 jour	22/03/17 08:00	22/03/17 17:00	8 heures	0,00 €
27	1.3.19	Final testin		TRAVEL1	2 jours	23/03/17 08:00	24/03/17 17:00	40 heures	1550,00 €
28	1.3.20	Debugging		TRAVEL2	2 jours	27/03/17 08:00	28/03/17 17:00	16 heures	0,00 €
29	1.3.21	Acceptance		TRAVEL3	1 jour	29/03/17 08:00	29/03/17 17:00	36 heures	1425,00 €
30	1.4	DEPLOYMENT			2 jours	30/03/17 08:00	31/03/17 17:00	16 heures	0,00 €
31	1.5	PROJECT MANAGEMENT (After Req'ts WP & before Closure)	2;3OFF	OPM[50 %]	60 jours	09/01/17 08:00	31/03/17 17:00	240 heures	13500,00 €
32	1.6	CONTRACTOR'S PROJECT CLOSURE	31	CTR;OPM[50 %];TRAVEL3	1 jour	03/04/17 08:00	03/04/17 17:00	12 heures	475,00 €
33	1.7	OVERALL PROJECT CLOSURE	32	DATENG;EDTR1;EDTR2;EDTR3;EDTR4;OPM	1 jour	04/04/17 08:00	04/04/17 17:00	48 heures	2050,00 €
34	1.8	COST OF WORK DONE BY MAIN CONTRACTOR		CTR_COST	1 jour	03/01/17 08:00	03/01/17 17:00	0 heures	89684,00 €
35	1.9	OTHER NON-LABOUR COSTS		MMLIC;HW	1 jour	03/01/17 08:00	03/01/17 17:00	0 heures	5000,00 €

**Questions?**

# Estimate costs & Determine budget



# Determine budget (1)

- Add up all estimated costs
- The budget should be officially approved by the project sponsor

**Determine budget**

Estimate costs



# Determine budget (2)

- Authorized budget = baseline for the evaluation of the “**cost performance**” of the project
- May incorporate “**management reserve**” to provide for “imponderables”

Determine budget

Estimate costs



# Determine budget (3)

- A contractor's budget for the execution of work for a client should include a **profit margin**
- $\text{Price} = \text{total cost of work} + \text{margin}$

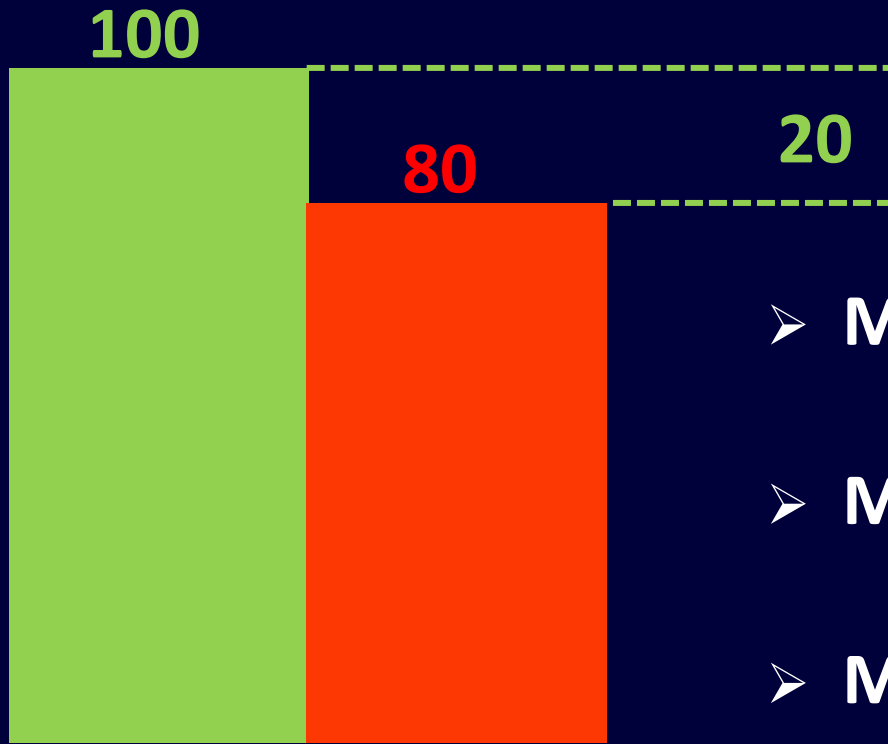
Determine budget

Estimate costs





# Reminder: Margin & Mark-up



- Margin (profit) = 20
- Margin% =  $20/100 = 20\%$
- Mark-up% =  $20/80 = 25\%$

Price paid by the client

Cost of project for the contractor

Price =  $\text{Cost}/(1-\text{Margin}\%)$

Mark-up% =  $1/(1-\text{Margin}\%) - 1$

# Example of profit margin

- Estimated cost = € 100,000
- Required margin = 20%
- Price = Cost / (1-Margin%) = 100,000 / 0.8
- Amount invoiced to client = € 125,000
  - ❖ 25% mark-up
  - (100,000 x 1.25 = 125,000)

Determine budget

Estimate costs



# Project EXONE Contractor's costs (MPP)

WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost
1	<b>PROJECT EXONE</b>			<b>65 days</b>	<b>03/01/17</b>	<b>03/04/17</b>	<b>177 days</b>	<b>€ 65,225.00</b>
2	<b>1.1 REQUIREMENTS</b>			<b>4 days</b>	<b>03/01/17</b>	<b>06/01/17</b>	<b>14 days</b>	<b>€ 4,550.00</b>
3	1.1.1 Review and complete requirements & plan with client		STC;DVPR1;CLT;PM	3 days	03/01/17	05/01/17	12 days	€ 4,050.00
4	1.1.2 Final discussion and agreement with client on req'ts & plan	3	CLT;PM	1 day	06/01/17	06/01/17	2 days	€ 500.00
5	<b>1.2 DESIGN</b>			<b>11 days</b>	<b>09/01/17</b>	<b>23/01/17</b>	<b>26 days</b>	<b>€ 10,350.00</b>
6	1.2.1 Write design specifications	4	DVPR1;STC	7 days	09/01/17	17/01/17	14 days	€ 5,950.00
7	1.2.2 Check design with respect to requirements	6	DVPR1;STC;PM[50%]	2 days	18/01/17	19/01/17	5 days	€ 2,200.00
8	1.2.3 Meet with client to discuss & agree on design	7	STC;PM[50%];DVPR1;CLT	2 days	20/01/17	23/01/17	7 days	€ 2,200.00
9	<b>1.3 IMPLEMENTATION</b>			<b>46 days</b>	<b>24/01/17</b>	<b>28/03/17</b>	<b>61 days</b>	<b>€ 22,800.00</b>
10	1.3.1 Coding - Alpha version	8	DVPR2;DVPR1	7 days	24/01/17	01/02/17	14 days	€ 5,250.00
11	1.3.2 Debugging phase 1 (following internal Alpha testing)	27;10	DVPR2;DVPR1	3 days	06/02/17	08/02/17	6 days	€ 2,250.00
12	1.3.3 Production of Alpha version and delivery to client	22	DVPR2	1 day	10/02/17	10/02/17	1 day	€ 350.00
13	1.3.4 Debugging phase 2 (following client Alpha testing)	28	DVPR1;DVPR2	2 days	15/02/17	16/02/17	4 days	€ 1,500.00
14	1.3.5 Coding - Beta version	13	DVPR2;DVPR1	8 days	17/02/17	28/02/17	16 days	€ 6,000.00
15	1.3.6 Debugging phase 3 (following internal Beta testing)	29;14	DVPR2;DVPR1	3 days	02/03/17	06/03/17	6 days	€ 2,250.00
16	1.3.7 Production of Beta version and delivery to client	24	DVPR2	1 day	09/03/17	09/03/17	1 day	€ 350.00
17	1.3.8 Debugging phase 4 (following client Beta testing)	30	DVPR1;DVPR2	4 days	16/03/17	21/03/17	8 days	€ 3,000.00
18	1.3.9 Production of Final version and delivery to client	17	DVPR2	1 day	22/03/17	22/03/17	1 day	€ 350.00
19	1.3.10 Debugging phase 5 & delivery (following client Final testing)	31	DVPR2;DVPR1	2 days	27/03/17	28/03/17	4 days	€ 1,500.00
20	<b>1.4 INTEGRATION</b>			<b>23 days</b>	<b>06/02/17</b>	<b>08/03/17</b>	<b>5 days</b>	<b>€ 1,050.00</b>
21	1.4.1 Delivery of content subset by client	11FF-2 days	CLT	1 day	06/02/17	06/02/17	1 day	€ 0.00
22	1.4.2 Integration of content subset	21;11	DVPR2	1 day	09/02/17	09/02/17	1 day	€ 350.00
23	1.4.3 Delivery of complementary content by client	15FF-2 days	CLT	1 day	02/03/17	02/03/17	1 day	€ 0.00
24	1.4.4 Integration of complementary content	23;15	DVPR2	2 days	07/03/17	08/03/17	2 days	€ 700.00
25	<b>1.5 TESTING &amp; ACCEPTANCE</b>			<b>47 days</b>	<b>24/01/17</b>	<b>29/03/17</b>	<b>32.5 days</b>	<b>€ 7,675.00</b>
26	1.5.1 Prepare test plan and test cases	8	STC[50%];JTC	5 days	24/01/17	30/01/17	7.5 days	€ 2,875.00
27	1.5.2 Internal testing - Alpha version	10SS+3 days;26	TSTR1;TSTR2	4 days	31/01/17	03/02/17	8 days	€ 2,400.00
28	1.5.3 Alpha testing by client	12	CLT	2 days	13/02/17	14/02/17	2 days	€ 0.00
29	1.5.4 Internal testing - Beta version	14SS+5 days	TSTR1;TSTR2	4 days	24/02/17	01/03/17	8 days	€ 2,400.00
30	1.5.5 Beta testing by client	16	CLT	4 days	10/03/17	15/03/17	4 days	€ 0.00
31	1.5.6 Final testing by client	18	CLT	2 days	23/03/17	24/03/17	2 days	€ 0.00
32	1.5.7 Acceptance by client	19	CLT	1 day	29/03/17	29/03/17	1 day	€ 0.00
33	<b>1.6 DEPLOYMENT AT CLIENT'S SITE</b>		DVPR2;JTC;TRAVEL[€ 750.00]	<b>2 days</b>	<b>30/03/17</b>	<b>31/03/17</b>	<b>4 days</b>	<b>€ 2,150.00</b>
34	<b>1.7 PROJECT MANAGEMENT (After Req'ts WP &amp; before Closure)</b>	2;33FF	PM[50%]	<b>60 days</b>	<b>09/01/17</b>	<b>31/03/17</b>	<b>30 days</b>	<b>€ 15,000.00</b>
35	<b>1.8 PROJECT CLOSURE</b>	34	DVPR1;PM;STC;TSTR1;CLT[50%]	<b>1 day</b>	<b>03/04/17</b>	<b>03/04/17</b>	<b>4.5 days</b>	<b>€ 1,650.00</b>

# Project EXONE Contractor's costs (XLS)

PROJECT EXONE CONTRACTOR'S RESOURCES & COSTS		RESOURCES	DUR'NS 65	COSTS € 65,225				
<b>REQUIREMENTS</b>					<b>4</b>	<b>€ 4,350</b>		
Review and complete requirements & plan with client	STC;DVPR1;PM;CLT		3	€ 4,050				
Final discussion and agreement with client on req'ts & plan	PM;CLT		1	€ 500				
<b>DESIGN</b>					<b>11</b>	<b>€ 10,350</b>		
Write design specifications	DVPR1;STC		7	€ 5,950				
Check design with respect to requirements	DVPR1;STC;PM[50%]		2	€ 2,200				
Meet with client to discuss & agree on design	DVPR1;STC;PM[50%];CLT		2	€ 2,200				
<b>IMPLEMENTATION</b>					<b>46</b>	<b>€ 22,800</b>		
Coding - Alpha version	DVPR1;DVPR2		7	€ 5,250	<b>HUMAN RSRCs</b>	<b>Costs/day</b>		
Debugging phase 1 (following internal Alpha testing)	DVPR1;DVPR2		3	€ 2,250	PM	€ 500		
Production of Alpha version and delivery to client	DVPR2		1	€ 350	STC	€ 450		
Debugging phase 2 (following client Alpha testing)	DVPR1;DVPR2		2	€ 1,500	JTC	€ 350		
Coding - Beta version	DVPR1;DVPR2		8	€ 6,000	DVPR1	€ 400		
Debugging phase 3 (following internal Beta testing)	DVPR1;DVPR2		3	€ 2,250	DVPR2	€ 350		
Production of Beta version and delivery to client	DVPR2		1	€ 350	TSTR1	€ 300		
Debugging phase 4 (following client Beta testing)	DVPR1;DVPR2		4	€ 3,000	TSTR2	€ 300		
Production of Final version and delivery to client	DVPR2		1	€ 350	CLT	€ 0		
Debugging phase 5 & delivery (following client Final testing)	DVPR1;DVPR2		2	€ 1,500				
<b>INTEGRATION</b>					<b>23</b>	<b>€ 1,050</b>	<b>OTHER COST ITEMS</b>	<b>Costs</b>
Delivery of content subset by client	CLT		1	€ 0	TRAVEL	€ 750		
Integration of content subset	DVPR2		1	€ 350				
Delivery of complementary content by client	CLT		1	€ 0				
Integration of complementary content	DVPR2		2	€ 700				
<b>TESTING &amp; ACCEPTANCE</b>					<b>47</b>	<b>€ 7,675</b>		
Prepare test plan and test cases	STC[50%];JTC		5	€ 2,875				
Internal testing - Alpha version	TSTR1;TSTR2		4	€ 2,400				
Alpha testing by client	CLT		2	€ 0				
Internal testing - Beta version	TSTR1;TSTR2		4	€ 2,400				
Beta testing by client	CLT		4	€ 0				
Final testing by client	CLT		2	€ 0				
Acceptance by client	CLT		1	€ 0				
<b>DEPLOYMENT AT CLIENT'S SITE</b>					<b>2</b>	<b>€ 2,150</b>		
<b>PROJECT MGMNT (After Req'ts WP &amp; before Closure)</b>	PM[50%]		<b>60</b>	<b>€ 15,000</b>				
<b>PROJECT CLOSURE</b>	DVPR1;STC;TSTR1;PM;CLT[50%]		<b>1</b>	<b>€ 1,650</b>				

# EXONE: summary budget - Contractor

Project EXONE: contractor's budget	
Estimated cost of project	€ 65,225
Management reserve (10% of estimated cost)	€ 6,523
<b>Total cost of project</b>	<b>€ 71,748</b>
Mark-up% (% of total cost of project)	25%
Mark-up amount	€ 17,937
<b>BUDGET (price to be paid by the client)</b>	<b>€ 89,684</b>
Profit margin amount	€ 17,937
Profit margin % (% of budget/price)	20%

# Project EXONE Client's costs (MPP)

WBS	Task Name	Predecessors	Resource Names	Duration	Start	Finish	Work	Cost
1	<b>PROJECT EXONE</b>			<b>66 days</b>	<b>03/01/17</b>	<b>04/04/17</b>	<b>200 day</b>	<b>€ 145,734.00</b>
2	<b>1.1 REQUIREMENTS</b>			<b>4 days</b>	<b>03/01/17</b>	<b>06/01/17</b>	<b>11 day</b>	<b>€ 4,000.00</b>
3	1.1.1 Review and complete requirements & plan with contractor		CTR;OPM;DATENG;TRAVEL[€ 1,000.00]	3 days	03/01/17	05/01/17	9 day	€ 3,550.00
4	1.1.2 Final discussion and agreement with contractor on req'ts & plan	3	CTR;OPM	1 day	06/01/17	06/01/17	2 day	€ 450.00
5	<b>1.2 SOFTWARE DESIGN</b>			<b>11 days</b>	<b>09/01/17</b>	<b>23/01/17</b>	<b>12 day</b>	<b>€ 850.00</b>
6	1.2.1 Write and check design specifications	4	CTR	9 days	09/01/17	19/01/17	9 day	€ 0.00
7	1.2.2 Meet with contractor to discuss & agree on design	6	OPM[50%];CTR;TRAVEL[€ 400.00]	2 days	20/01/17	23/01/17	3 day	€ 850.00
8	<b>1.3 SOFTWARE IMPLEMENTATION</b>			<b>46 days</b>	<b>24/01/17</b>	<b>28/03/17</b>	<b>35 day</b>	<b>€ 0.00</b>
9	1.3.1 Coding, internal testing & bug fixing - Alpha version	7	CTR	12 days	24/01/17	08/02/17	12 day	€ 0.00
10	1.3.2 Delivery of Alpha version by contractor	21	CTR	1 day	10/02/17	10/02/17	1 da	€ 0.00
11	1.3.3 Debugging following Alpha testing	28	CTR	2 days	15/02/17	16/02/17	2 day	€ 0.00
12	1.3.4 Coding, internal testing & bug fixing - Beta version	11	CTR	12 days	17/02/17	06/03/17	12 day	€ 0.00
13	1.3.5 Delivery of Beta version by contractor	25;12	CTR	1 day	09/03/17	09/03/17	1 da	€ 0.00
14	1.3.6 Debugging following Beta testing	29	CTR	4 days	16/03/17	21/03/17	4 day	€ 0.00
15	1.3.7 Delivery of Final version by contractor	14	CTR	1 day	22/03/17	22/03/17	1 da	€ 0.00
16	1.3.8 Debugging following Final testing & delivery for acceptance	30	CTR	2 days	27/03/17	28/03/17	2 day	€ 0.00
17	<b>1.4 CONTENT CREATION &amp; INTEGRATION</b>			<b>32 days</b>	<b>24/01/17</b>	<b>08/03/17</b>	<b>69 day</b>	<b>€ 19,800.00</b>
18	1.4.1 Creation of content subset	7	EDTR1;EDTR2;EDTR3;EDTR4	6 days	24/01/17	31/01/17	24 day	€ 7,200.00
19	1.4.2 Proofreading of content subset	18SS+4 days	PRFRDR1;PRFRDR2	3 days	30/01/17	01/02/17	6 day	€ 1,500.00
20	1.4.3 Preparation of content subset & delivery to contractor	9FF-2 days;19	DATENG	3 days	02/02/17	06/02/17	3 day	€ 1,200.00
21	1.4.4 Integration of content subset	20;9	CTR	1 day	09/02/17	09/02/17	1 da	€ 0.00
22	1.4.5 Creation of complementary content	28	EDTR1;EDTR2;EDTR3;EDTR4	6 days	15/02/17	22/02/17	24 day	€ 7,200.00
23	1.4.6 Proofreading of complementary content	22SS+4 days	PRFRDR1;PRFRDR2	3 days	21/02/17	23/02/17	6 day	€ 1,500.00
24	1.4.7 Preparation of complementary content & delivery to contractor	12FF-2 days;23	DATENG	3 days	28/02/17	02/03/17	3 day	€ 1,200.00
25	1.4.8 Integration of complementary content	24;12	CTR	2 days	07/03/17	08/03/17	2 day	€ 0.00
26	<b>1.5 TESTING &amp; ACCEPTANCE</b>			<b>41 days</b>	<b>01/02/17</b>	<b>29/03/17</b>	<b>33.5 day</b>	<b>€ 10,375.00</b>
27	1.5.1 Prepare test plan and test cases	18	EDTR1;EDTR2	4 days	01/02/17	06/02/17	8 day	€ 2,400.00
28	1.5.2 Alpha testing	10;27	EDTR3;EDTR4	2 days	13/02/17	14/02/17	4 day	€ 1,200.00
29	1.5.3 Beta testing	13	EDTR3;EDTR4;TSTSP	4 days	10/03/17	15/03/17	12 day	€ 3,800.00
30	1.5.4 Final testing	15	EDTR3;EDTR4;TSTSP[50%]	2 days	23/03/17	24/03/17	5 day	€ 1,550.00
31	1.5.5 Acceptance	16	OPM[50%];EDTR1;EDTR2;EDTR3;EDTR4	1 day	29/03/17	29/03/17	4.5 day	€ 1,425.00
32	<b>1.6 DEPLOYMENT</b>	31	CTR	<b>2 days</b>	<b>30/03/17</b>	<b>31/03/17</b>	<b>2 day</b>	<b>€ 0.00</b>
33	<b>1.7 PROJECT MANAGEMENT (After Req'ts WP &amp; before Closure)</b>	2;32FF	OPM[50%]	<b>60 days</b>	<b>09/01/17</b>	<b>31/03/17</b>	<b>30 day</b>	<b>€ 13,500.00</b>
34	<b>1.8 CONTRACTOR'S PROJECT CLOSURE</b>	33	OPM[50%];CTR;TRAVEL[€ 250.00]	<b>1 day</b>	<b>03/04/17</b>	<b>03/04/17</b>	<b>1.5 day</b>	<b>€ 475.00</b>
35	<b>1.9 OVERALL PROJECT CLOSURE</b>	34	DATENG;EDTR1;EDTR3;OPM;EDTR2;EDTR4	<b>1 day</b>	<b>04/04/17</b>	<b>04/04/17</b>	<b>6 day</b>	<b>€ 2,050.00</b>
36	1.10 COST OF WORK DONE BY CONTRACTOR		CTR_COST[€ 89,684.00]				0 day	€ 89,684.00
37	1.11 OTHER NON-LABOUR COSTS		HW[1];MLLIC[1]				0 day	€ 3,000.00

Price to be paid to the contractor

# Project EXONE Client's costs (XLS)

PROJECT EXONE CLIENT'S RESOURCES & COSTS		RESOURCES	DUR'NS	COSTS		
			66	€ 145,734		
<b>REQUIREMENTS</b>			4	€ 4,000		
Review and complete requirements & plan with contractor	OPM;DATENG;CTR;TRAVEL1		3	€ 3,550		
Final discussion and agreement with contractor on req'ts & plan	OPM;CTR		1	€ 450		
<b>SOFTWARE DESIGN</b>			11	€ 850		
Write and check design specifications	CTR		9	€ 0		
Meet with contractor to discuss & agree on design	OPM[50%];CTR;TRAVEL2		2	€ 850		
<b>SOFTWARE IMPLEMENTATION</b>			46	€ 0	<b>HUMAN RSRCs</b>	<b>Costs/day</b>
Coding, internal testing & bug fixing - Alpha version	CTR		12	€ 0	OPM	€ 450
Delivery of Alpha version by contractor	CTR		1	€ 0	EDTRs	€ 300
Debugging following Alpha testing	CTR		2	€ 0	DATENG	€ 400
Coding, internal testing & bug fixing - Beta version	CTR		12	€ 0	PRFRDRs	€ 250
Delivery of Beta version by contractor	CTR		1	€ 0	TSTSP	€ 350
Debugging following Beta testing	CTR		4	€ 0	CTR	€ 0
Delivery of Final version by contractor	CTR		1	€ 0		
Debugging following Final testing & delivery for acceptance	CTR		2	€ 0		
<b>CONTENT CREATION &amp; INTEGRATION</b>			43	€ 19,800	<b>OTHER COST ITEMS</b>	<b>Costs</b>
Creation of content subset	EDTR1;EDTR2;EDTR3;EDTR4		6	€ 7,200	CTR_COST	€ 89,684
Proofreading of content subset	PRFRDR1;PRFRDR2		3	€ 1,500	HW	€ 3,000
Preparation of content subset & delivery to contractor	DATENG		3	€ 1,200	MMLIC	€ 2,000
Integration of content subset	CTR		1	€ 0	TRAVEL1	€ 1,000
Creation of complementary content	EDTR1;EDTR2;EDTR3;EDTR4		6	€ 7,200	TRAVEL2	€ 400
Proofreading of complementary content	PRFRDR1;PRFRDR2		3	€ 1,500	TRAVEL3	€ 250
Preparation of complementary content & delivery to contractor	DATENG		3	€ 1,200		
Integration of complementary content	CTR		2	€ 0		
<b>TESTING &amp; ACCEPTANCE</b>			38	€ 10,375		
Prepare test plan and test cases	EDTR1;EDTR2		4	€ 2,400		
Alpha testing	EDTR3;EDTR4		2	€ 1,200		
Beta testing	EDTR3;EDTR4;TSTSP		4	€ 3,800		
Final testing	EDTR3;EDTR4;TSTSP[50%]		2	€ 1,550		
Acceptance	EDTR1;EDTR2;EDTR3;EDTR4;OPM[50%]		1	€ 1,425		
<b>DEPLOYMENT</b>		CTR	2	€ 0		
<b>PROJECT MGMNT (After Req'ts WP &amp; before Closure)</b>		OPM[50%]	60	€ 13,500		
<b>CONTRACTOR'S PROJECT CLOSURE</b>		OPM[50%];CTR;TRAVEL3	1	€ 475		
<b>OVERALL PROJECT CLOSURE</b>		OPM;DATENG;EDTR1;EDTR2;EDTR3;EDTR4	1	€ 2,050		
		CTR_COST;HW;MMLIC		€ 94,684		

# EXONE: summary budget - Client

Project EXONE: client's budget	
<b>Internal costs</b>	
Pre-3/1/17: Req'ts writing + Contractor selection	€ 4,500
3/1/17 through to 4/4/17	€ 44,650
<b>Total Internal costs</b>	<b>€ 49,150</b>
<b>External &amp; other costs</b>	
Software development	€ 89,684
Content proofreading	€ 3,000
Product testing (beta & final)	€ 1,750
Server and software	€ 3,000
Multimedia asset licences	€ 2,000
Travel	€ 1,650
<b>Total External &amp; other costs</b>	<b>€ 101,084</b>
<b>TOTAL Cost</b>	<b>€ 150,234</b>
Management reserve (10% of total cost)	€ 15,023
<b>BUDGET</b>	<b>€ 165,257</b>

= Total cost (€ 145,734) in client's plan (on previous slide) + Pre-3/1/17 costs (€ 4,500)



**Questions?**

# Planning processes: where do we stand?

