Value Driven Procurement in Building and Real Estate

Eracobuild

September 15 2009

Project description. Program Value Driven Processes – VDP

Project title **Value Driven Procurement in Building and Real Estate (ValPro)**
Project duration (dates) **1.1.2010 – 31.12.2011**

PROJECT COORDINATOR

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PROBLEM DESCRIPTION AND STATE OF THE ART

The building sector is mainly focused on reducing the initial (investment) costs, rather than applying any comprehensive approaches for optimizing total facility life cycle values for the benefit of owners, users, the environment and the society. This is partly due to lack of models, methods and tools for total life cycle value management, partly due to current business models and contractual frameworks that do not provide for innovation and novel value sharing schemes.

Adopting the terminology illustrated in Figure 1 (de Ridder, 2006), we can maximize yield, and thus increase the client benefit (value for money) and/or provider profit by means of either cutting cost or creating more value. The first one is the prevailing strategy in building sector, but it has its obvious limitations in terms of being able to truly satisfy user and society needs (and also in terms of how far down the 'control space' can stretch); the latter one, on the other hand, would inherently be client orientated approach, and therefore more directly linked to end user (and society) focus – and there is no preset (theoretic) upper limit to yield. Naturally, combining the two approaches will maximize the yield potential.

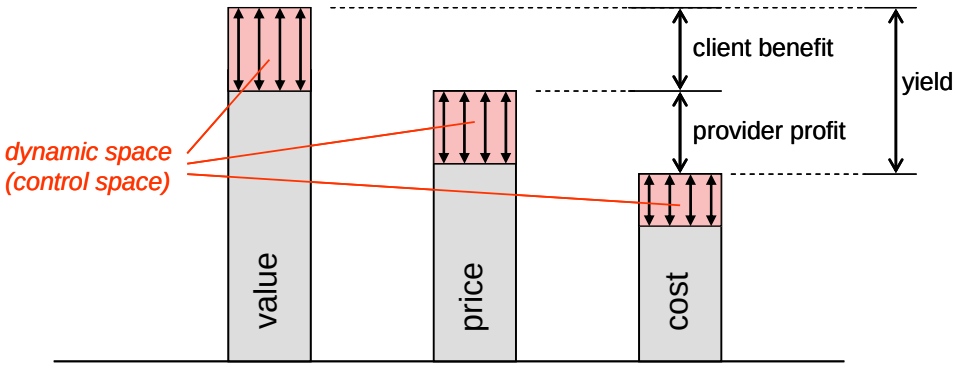


Figure 1 Value - price - cost terminology according to de Ridder (2006).

While trimming production costs already may be reasonably supported by methods and tools (such as integrated design & production systems, industrial production, lean thinking etc.) and is not hampered by current contract forms, life cycle to product / service provision (to performance based specifications) still lacks sufficient tool support (e.g. service configuration and performance monitoring) and is not likely to become major business model under contractual frameworks that do not provide incentive for (or even prevent) continuous improvement and innovation.

Currently, there exists no tool, nor any holistic model or method for the evaluation of different value propositions considering all aspects of life cycle costs and values (economic, ecological, social, cultural, etc.). Creating additional value is still a rather new concept in the building industry and as such it is not yet driving business models or being enabled by contract forms. As a result, value driven processes and supporting models, methods and tools are not implemented in practice even if they exist.

More precisely, the core idea missing in the literature is a holistic approach that would include (i) a framework for value driven vision (ii) value models, taking into account different aspects (iii) a generic model that could be implemented in current decision support tools, and (iv) contract models to implement business models with value driven solutions. Ideally, the related process models for value driven development and the operational guidelines should not be examined separately and in isolation.

This proposal brings together 8 leading research institutions and key industry partners, creating a framework for interdisciplinary research to tackle the problem described above; a novel solution that can boost economic and social growth in the value-added direction.

DESCRIPTION OF PROJECT CONSORTIUM

CONSORTIUM OVERVIEW with supporting industry affiliates

Partner/Affiliate	Main project role	Abbr	Cntry
Research partners			
1. VTT Technical Research Centre of Finland (coordinator)	Project coordination, Case studies lead and FI case studies	VTT	FI
2. Centre Scientifique et Technique du Bâtiment	ICT support lead	CST	FR
3. Chalmers University of Technology	Dissemination lead	CHA	SE
4. CNE Technology Ltd.	Scenarios, State of Art, and Framework-RTD lead, CY case studies simulation	CNE	CY
5. Copenhagen Business School	Value model lead	CBS	DK
6. Cyprus University of Technology	Scenarios, State of Art, Framework-RTD	CUT	CY
7. Jönköping University	SW case studies	JUN	SE
8. SINTEF Building and Infrastructure	Business models and contract forms lead, NO	SIN	NO
Industry partners			
9. Rambøll	NO project owner, case owner	RAM	NO
10. Catenda[SME]	ICT support	CAT	NO
11. IOSIS	ICT support	IOS	FR
Industry affiliates			
12. Arkitektbedriftene i Norge	Members interviews and participation in workshops	AIN	NO
13. Bearing Consulting	Value related Case study and Workshop contribution	BEA	SE
14. Burberry Overseas Ltd	Building Contractor case	BUR	CY
15. Multiconsult	Case studies NO	MUC	NO
16. Ruukki Construction	Steel construction solution provider FI case owner	RUC	FI
17. Rådgivende Ingeniørers Forening	Members interviews and participation in workshops	RIF	NO
18. Skanska	Main contractor FI case owner	SKA	FI
Clients			
19. Senate properties	Public (state) facility owner FI case	SEN	FI
20. StatoilHydro	Offshore case owner	SOH	NO
21. Statsbygg	Public (state) facility owner NO case	STA	NO
22. Landstingsfastigheter i Jönköping	ICT business model case owner	LIJ	SE
23. RegionService	County council facility owner case	REF	SE

VTT Technical Research Centre of Finland (VTT)

VTT is a leading Finnish multidisciplinary research institute in industrial technologies. See www.vtt.fi.

Centre Scientifique et Technique du Bâtiment (CSTB)

CSTB (Centre Scientifique et Technique du Bâtiment – France) is a state-owned French research establishment in the construction sector.

Chalmers University of Technology (CHA)

Chalmers is a Swedish university of technology in which research and teaching are conducted on a broad front within technology, natural science and architecture.

CNE Technology Ltd (CNE)

CNE Specialises in the fields of Applied Research & Laboratory Services.

Copenhagen Business School (CBS)

CBS operates with 14 departments and 31 research centers, including one on management in the construction industry.

Cyprus University of Technology (CUT)

CUT is a new public University established in 2003 and participates with the Department of Civil Engineering.

Jönköping University

The School of Engineering, Jönköping University has developed research and development projects in close collaboration with industry.

SINTEF Building and Infrastructure (SIN)

SINTEF is Norway's leading centre for technological research and development for buildings, the built environment and infrastructure.

Industry partners/affiliates

Cyprys

Burberry Overseas Ltd is a group focused in land developments at the city centre of Limassol, one of the most important maritime, commercial, tourism and service centres in the area.

Finland

Ruukki Construction supplies steel construction solutions for commercial and industrial construction, as well as for infrastructure foundation and transport infrastructure projects.

Senate Properties provides property services mainly to customers in the government. It requires BIM models meeting the IFC standard in its projects.

Skanska is one of the world's leading construction and project development companies. Its operations in Finland cover construction services, residential and commercial project development and public-private partnerships.

France

IOSIS is a leader engineering group specialized in consultancy, management and engineering for building, infrastructure, civil engineering, energy and industry sectors.

Norway

All the industrial partners in the Norwegian research package provide own research or work hours in workshops, interviews, meetings etc., equal to the research funding from the Norwegian Research Councils.

Rambøll Norge is the industrial owner of the Norwegian research package.

Statsbygg will provide one of the case studies in the Norwegian research package.

StatoilHydro will provide knowhow and experience from both off-shore and on-shore projects.

Multiconsult will provide one of the case studies in the Norwegian research package.

Arkitektbedriftene i Norge (AiN) - Association of Consulting Architects in Norway will provide access to members concerning interviews and participation in workshops.

Rådgivende Ingeniørers Forening (RIF) - Association of Consulting Engineers will provide access to members concerning interviews and participation in workshops.

Catenda will provide research based BIM and ICT know-how into the transnational project.

Sweden

Landstingsfastigheter i Jönköping, (The Real Estate organization of Jönköpings County Council) ICT business case owner.

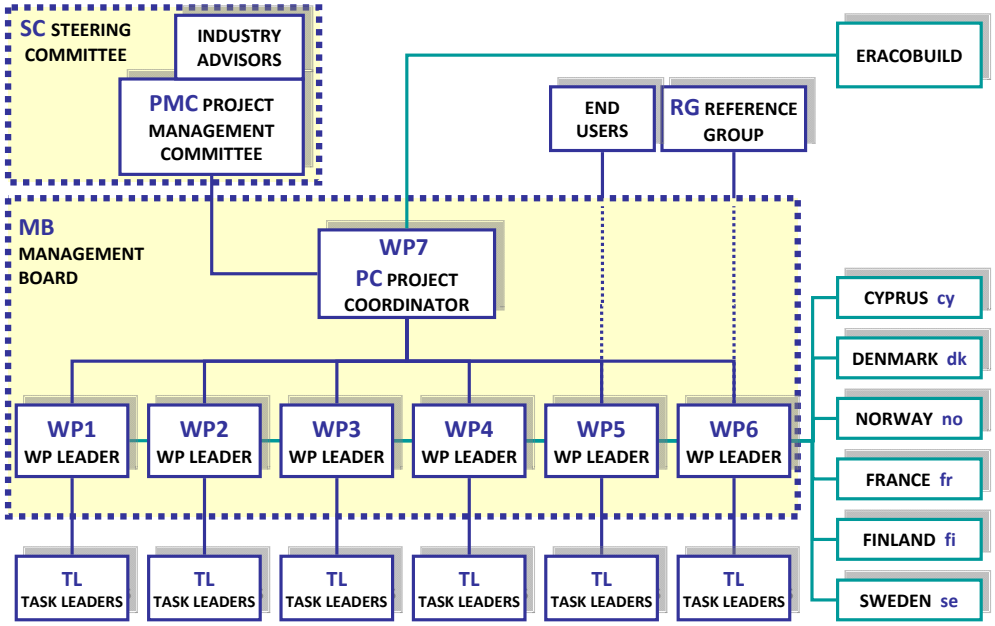
RegionService (The Service and Facilities Management organization of south Sweden's county councils) and case study provider within Real Estate.

Bearing Consulting (Stockholm) contributes to case studies and financial analyses, making these contributions in kind, and attending workshops and review meetings at various stages of the project.

PROJECT MANAGEMENT AND ORGANIZATIONAL STRUCTURE OF THE PROJECT

Project management and organizational structure

ValPro has a Management Board (MB) consisting of a Project Coordinator (PC) and Workpackage Leaders (WPL). Pekka Huovila, VTT, acts as PC and WP7 Leader. PC has the general responsibility of the organization, planning and control of ValPro as well as for the reporting to Eracobuild. PC is supported by WPLs from the participating countries. Dr Panayiotis Philimis, CNE Cyprus, is WP1 Leader, Professor Jan Annerstedt, CBS Denmark, WP2 Leader, Dr Anita Moum, SIN Norway, WP3 Leader, Dr. Marc Bourdeau, CST France, WP4 Leader, Juha Hyvärinen, VTT Finland, WP5 Leader and Dr Nina Ryd, CHA Sweden, WP6 Leader. The WPLs manage their Workpackages with the help of Task Leaders (TL). Each WPL is also the main project partner in the corresponding country and responsible for their work to the national funding agencies, reporting the results and their part of the budget nationally according to the guidelines in each country.



ValPro is supervised by the Steering Committee (SC) where all participating countries have two seats: each national responsible party is represented as a voting member of the Project Management Committee (PMC) and the national steering committee chair or similar (e.g. industry or client representative). The main task for the SC is to guide and instruct ValPro in successfully delivering the results as described in the accepted project plan within given budget and schedule; the particular role of PMC is to take actions according to the duties specified in consortium agreement (CA). The SC accepts the results but is not responsible for delivering them – that is done by the project partners. The SC will meet in conjunction with ValPro project meetings, at the project kick-off and then in the coming project meetings.

A Reference Group (RG) is formed to support receiving wider feedback and effective dissemination of results, especially at a national level. RG consists of national representatives from the industry, professional associations, public administration and other relevant experts.

Electronic means will be the main forms of communication. A project web page will be completed within the first three months, in order to be used by the project participants as a forum of communication and as a file server. The naming of working documents and emails will be instructed in the project manual and followed scrupulously. Traditional modes of face to face communication, such as meetings and workshops will be effectively employed and complemented by electronic meetings as appropriate.

Reviewing, progress reporting and decision making principles

The Task Leaders (TL) submit their results to the responsible WPL who releases them after review and acceptance, or requests improvements to be made; released results are reviewed and, if accepted by PC, they are reported to Eracobuild secretariat. PC may ask WPL to make improvements to released results; if there is a disagreement between TL and WPL, or between WPL and PC, the PC will start conflict resolution process in MB or SC as necessary. Each WPL reports the progress in their technical tasks to PC and dissemination activities to WP6 Leader every three months, using a ValPro template designed for that purpose.

All decisions are intended to be made on a consensus basis. In case of conflicts, the PC acts as a conciliator. If no agreement can be reached in negotiations, the decision can be made in the MB by relative majority. Important resolutions will be brought to the SC and made known to the funding organizations.

Many key individuals know each other from earlier collaboration, thus making smooth communication easy. The PC and all WPLs are experienced in international research community and knowledgeable about the topic. The project management procedures VTT applies in ValPro are best practices in a slightly simplified form from number of large European Framework Programme projects where VTT has had similar responsibilities. The work program has been designed in a way that each partner has clear responsibilities and ValPro rigorous milestones that facilitate monitoring the progress. Electronic means are harnessed to support efficient decision making without delay.

PROJECT OBJECTIVES

ValPro develops concepts, methods and tools to support value-based procurement, addressing RTD issues at all levels of the "value pyramid" (Figure 2). The top three levels have not yet been intensely studied in the building and real estate sector, and ValPro research outcomes are thereby expected to bring novelty. The three bottom levels have been addressed in recent RTD efforts and some results already taken up in the industry (e.g. BIM tools and process guidelines). Since the total life cycle value driven approach has not yet been considered ValPro delivers valuable new knowledge there as well.

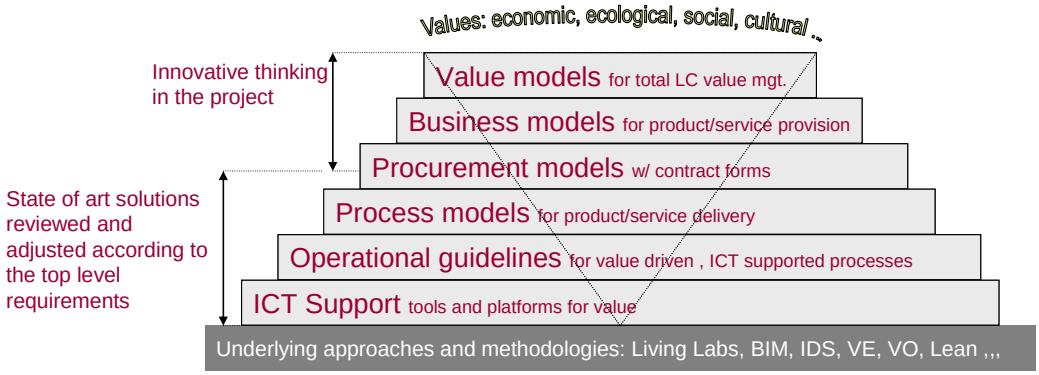


Figure 2 ValPro project view.

ValPro RTD objectives at each level are:

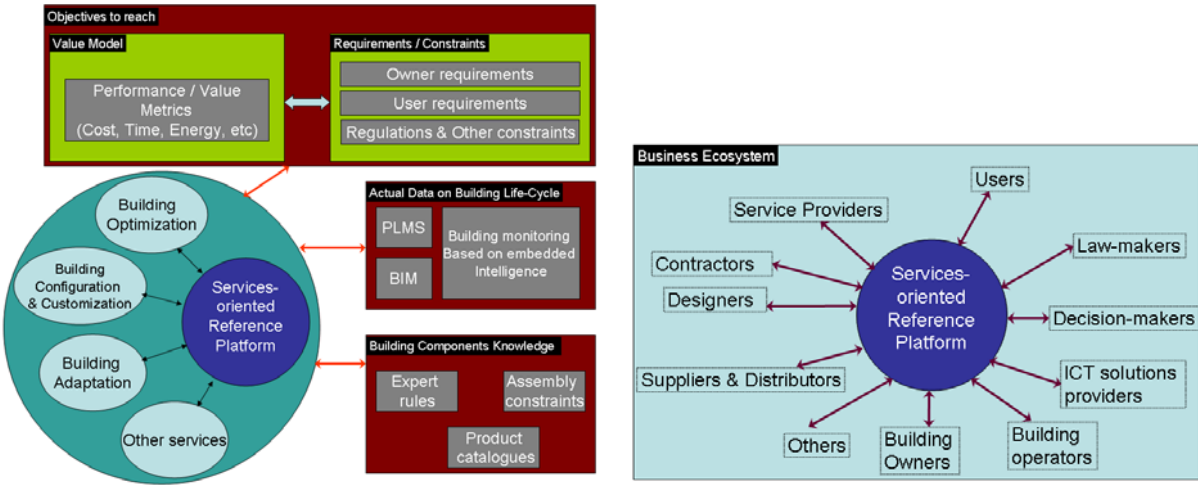
1. Framework and business scenarios for value driven vision; based on state of art & trends, identified barriers & drivers and derived from industry case studies
2. Value model(s) able to consider multiple aspects: economic, ecological, social and cultural. Generic (holistic) model, applicable to specific business scenarios and implementable in decision support tools.
3. Business models for defined industrial scenarios that will ensure commercial viability of Product/Service solutions for optimal life-cycle value.
4. Contract models for defined scenarios to implement business models with value driven P/S solutions.

5. Process models for value driven P/S development and sustained delivery.
6. Operational guidelines to support implementation of the processes.
7. ICT support tools for the life-cycle business processes with value driven focus.

The ValPro results will be validated with participating and supporting companies in selected case studies, focusing on well defined business cases. The findings will be communicated to relevant stakeholders, both clients and providers, as well as policy makers and legislators.

The project aims to increase the value in the innovation process involving building stakeholders throughout smart and innovative construction support ICT tools. Special consideration will be given to the development of methodology and services to measure and evaluate the performance (and value) of a building (during its life cycle) based on targets to reach or actual taking into account the users' profiles (physically handicapped persons, partially-sighted, hearing-impaired, etc.).

The following figure gives a tentative conceptual view of the envisaged platform.



Therefore, ValPro will provide an approach to deal with (i) the concept of end-users and how to understand their needs holistically, (ii) the on-going dynamics between buildings and stakeholders, (iii) the metrics for the unified expression of social, environmental and economical values, and (iv) the methods for performance optimization.

DESCRIPTION OF THE PROJECT WITH WORK PACKAGES (INCLUDING MILESTONES AND DELIVERABLES FOR EACH PARTNER)

The project effort will be organized in 7 work packages, as shown in Figure 3 and table below:

WP No	Work package title	Lead	Person-months	Start month	End month
1	Scenarios and Framework	CNE	20,7	0	9
2	Value Models	CBS	15,8	6	15
3	Business Models	SIN	15,0	6	18
4	ICT support	CSTB	22,0	6	18
5	Case studies	VTT	20,9	0	21
6	Dissemination	CHA	19,6	0	24
7	Management	VTT	2,0	0	24
	TOTAL		**116**		

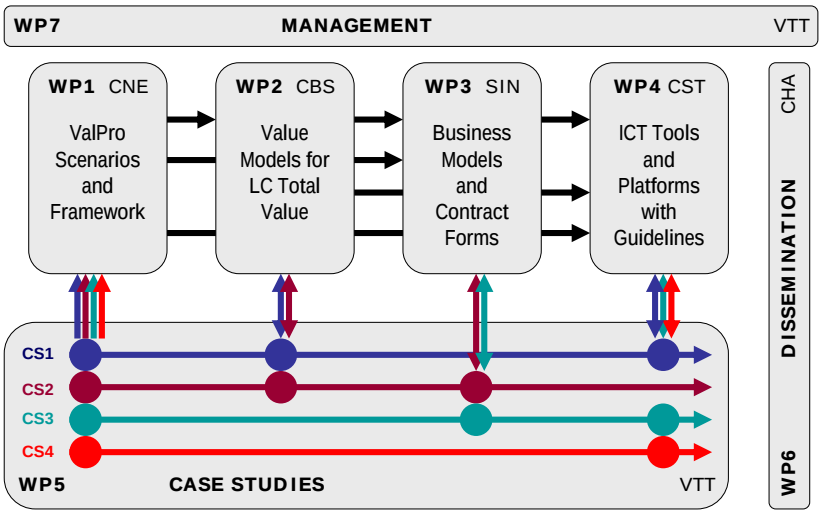


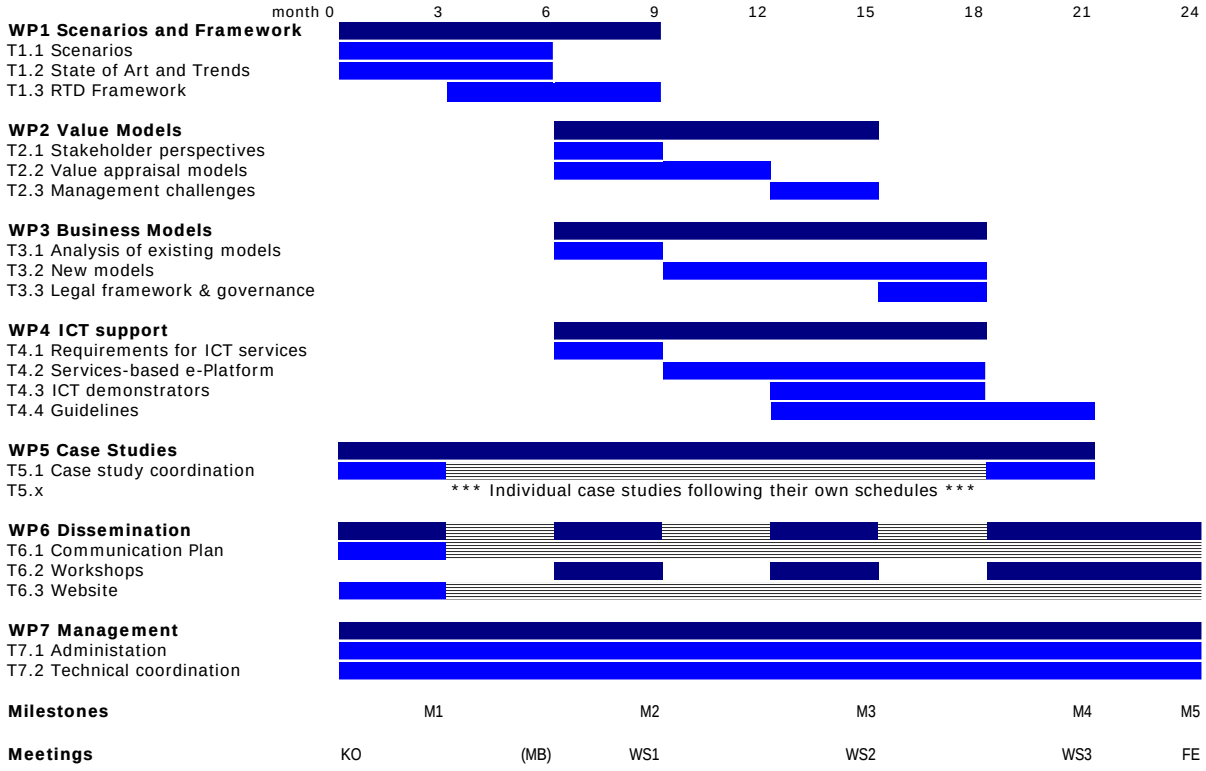
Figure 3 ValPro workpackage structure

While a holistic view is needed to guarantee long term validity of RTD actions (top-down approach in planning and scheduling WPs 1-4), ValPro aims to ensure industrial relevance also with short term benefits by case studies (bottom-up approach driven by WP5).

WP1 collects initial industrial requirements (from planned case studies in WP5), performs SoA studies in the most relevant project areas, and then synthesizes the above into a RTD framework and into illustrative business scenarios. WP2 concentrates on value creation from the various stakeholders' perspectives and considering all aspects of total life cycle values. WP3 proposes procurement models and contract forms to encourage innovation for value creation. WP4 is concerned with implementing the proposed business model specified in WP3 and the associated services based on Value Models for LC Total Value as described in WP2. WP5 collects a set of industry case studies providing basic project requirements and focus, as well as testing and evaluating the results. WP6 reaches out to various stakeholders who need to become aware of the project findings and outcomes.

WP	VTT	CSTB	IOS	CHA	JUN	CNE	CUT	CBS	SIN*	IND#	CAT
WP1	2	0,5	0	1	0,5	9,5	5,7	1	0,5		
WP2	3	0,5	0	0,5	1,5	1	1,3	8			
WP3	4	0,5	0	1	0,5	3	1	3	2		
WP4	4	8	2	1,5	2,5	2	0	0			2
WP5	5	0,5	1	1	1	5	2,9	4	0,5		
WP6	2	0	0	3	2	6	2,6	0	1,5	1,5	1
WP7	2	0	0	0	0	0	0	0	0	0	0
Total 116	**22**	**10**	**3**	**8**	**8**	**26,5**	**13,5**	**16**	**4,5**	**1,5**	**3**

* Additional support from Norwegian national project, 26 PM in total.
# IND stands for Ramboll, Multiconsult and other Norwegian industrial partners.



Milestones (M) at project month (m)

M1 (m3): Management procedures. Communication plan and website. Case study guidelines and target plans.
M2 (m9): Scenarios and State of Art studies. RTD Framework, Requirements for value models, business models and ICT support. 1st public workshop.
M3 (m15): Final report on Value creation and sharing, Draft business models and ICT guidelines, ICT platform specification 1st draft. 2nd public workshop.
M4 (m21): Final business models, Final ICT specifications and guidelines, ICT demonstrators. Case study reports. 3rd public workshop.
M5 (m24): Final Event. Dissemination activities completed. Final Report.

Meetings and workshops at project month (m)

KO: Project kick-off meeting - all partners (m0)
MB: Management Board - physical or e-meeting (m6)
WS: Public workshop, in conjunction with project MB and SC meetings (m9, m15, m21)
FE: Final public event and project MB and SC meetings (m24)

WP1 Scenarios and framework for value driven procurement

(Lead: CNE. Partners: CUT, CBS, CST, SIN, VTT, CHA).

Objective: Developing business scenarios for ValPro and a RTD framework for value based building and real estate business.

T1.1 Scenarios for value driven building and real estate business

Building scenarios will be developed and studied based on business cases mentioned in WP5. VTT will lead this task with support from the rest of the partners.

T1.2 State of Art in value based procurement

Industry best practices: Describe business models already in operation or emerging, drawn from each of the participating countries.

T1.3 Framework for value driven procurement RTD

A framework for RTD topics will be developed based on state of art & trends, identified barriers & drivers, derived from industry case study definitions. CNE will lead this task with support from the rest of the partners

Deliverables: D1 - Value driven framework and scenarios for building and real estate procurement. (m9)

Milestones: M2 – Scenarios and State of Art studies. RTD Framework (m9).

WP2 Value models for building and real estate industry scenarios

(Lead: CBS. Partners: VTT, CNE, CUT, CHA, JUN).

Objective: Developing holistic value model for facility life cycle and specialization of generic model for defined business scenarios.

New and better insights into value creation and related management challenges in the businesses of construction, facility management and real estate.

T2.1 Stakeholder perspectives

User-involvement & innovative partnerships: The analytical perspectives will not only be managerial, as defined by company directors.

Changing stakeholder perspectives: Aims at proposing a model, several models, or a combination of models for value appraisal that cover the whole life cycle of a building or other facility.

'Multi-local' & 'multi-stakeholder': Combines the research outcomes from each and all of the case studies into 'multi-stakeholder' and 'multi-local' analyses.

T2.2 Value appraisal models

Four analytical perspectives: Look into the traditional financial performance perspectives (addressing productivity issues at various stages, revenue growth and, more generally, shareholder value).

Seven 'value streams': The intangible assets under scrutiny will be grouped into seven main categories in a detailed scheme.

T2.3 Management challenges

Efficiency & innovation: Sums up our findings also as a comprehensive set of 'managerial challenges', which need to be addressed by companies that attempt at a leading role in advancing new business models.

Deliverables: D2 – Value models in building and real estate industry (m15).

Milestones: M2 - Requirements for value models (m9). M3 - Final report on Value creation and sharing (m15).

WP3 Business models and contract forms for value driven procurement

(Lead: SIN. Partners: CBS, VTT, CNE, CUT, CHA, JUN …).

Objectives: 1) Developing business models for value driven processes in building and real estate industry.

The focus is on four elements of the business model

- Competition models (criteria for the clients' commissioning of architects/engineers)
- Clients' project organization (e.g. organization of project management, the clients' establishment)
- Contract forms (the clients' contracts with the designers: group-contract, separate contracts...)
- Procurement forms (regulation of delivery from contractor and design team to client)

Various combinations of these elements are applied to various building projects, impacting the ability of the design team to add value in different ways.

T3.1 Analysis of existing business models

Business model factors will be identified which hinder or facilitate the project team actors' possibility to create value in BIM assisted projects.

T3.2 New business models

Recommendations will be established for new business models. The findings will be the basis for arranging interactive workshops where participants representing a broader part of the industry and the buildings value chain an extended industry consortium will be invited.

T3.3 Legal framework & governance

By the case studies, we will address the overall governance issues (including the particular legal framework for procurement, ownership, etc.) that may influence the strategies of the actors involved.

Delivelables: D3 – Business models for value driven building and real estate (m21).

Milestones: M2 - Requirements for business models (m9). M3 – draft business models (m15). M4 – Final business models (m21).

WP4 ICT support tools and platforms for value driven processes

(Lead: CSTB. Partners: SIN, VTT, CHA, JUN, CNE…)

Objectives:

1) Requirements for ICT support in value driven life-cycle processes. 2) Adoption/adaption of available ICT tools and platforms in defined scenarios. 3) Operational guidelines to support implementation of the processes.

Tasks 4.1: Requirements for ValPro-services solutions

This task will achieve translation of needs and scenarios performed in WP1 into technical requirements. It will synthesize results from WP1, and will formulate them in a set of technical requirements that can be used as a foundation to develop services of ValPro e-Platform.

Task 4.2: Specification and Development of the ValPro Services-based e-Platform

The goal of this task is to specify a service-hosting model using the Service-Oriented Architecture (SOA) paradigm, and to define and implement the resulting architecture that will leverage the services to be defined in Task 4.1. The architecture will be based on a set of loosely coupled components available as services.

Task 4.3: Demonstration and Validation by case studies simulation

This task involves integrating researchers in following Action Research principles to continuously observe and monitor performance (using quantitative and qualitative criteria) and to discover what adjustments are required to improve the models, processes and tools.

Task 4.4: ValPro operational guidelines to support implementation of the processes

This task consists of providing all stakeholders with guidelines, and "service mentors" for building activities.

The guidelines will present techniques, standards or heuristics associated to processes/activities or to artifacts (documents, products, and pieces of work, etc).

Deliverables:

D4 - ICT Services requirements specification (m9)
- Specification of each service component
- Prototype services

D5 - ValPro Service-Based e-Platform (m21)
- Specification of platform architecture
- Prototype platform with integration of services, and interfaces for BIM and PLMS
- Detailed plan for validation and demonstration.
- Conclusions and summary of findings from the demonstration.

D6 - Operational guidelines (m21)
- Key processes analysis
- Hands-on-guidance for services covering the selected key processes.

Milestones: M2 - Requirements for ICT support (m9) M3 – Draft ICT guidelines, ICT platform specification 1st draft (m15). M4 – Final ICT specifications and guidelines, ICT demonstrators (m21).

WP5 Case studies

(Lead: VTT. Partners: CBS, SIN, CHA, JUN, CNE, CUT…).

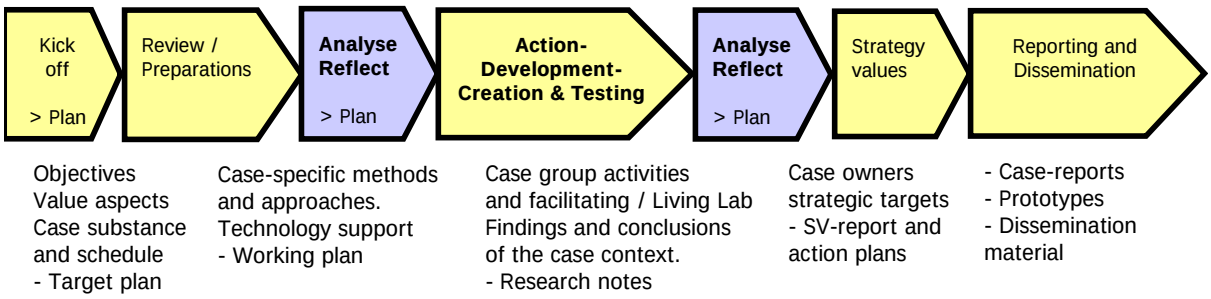
Objectives: Ensuring industrial relevance of ValPro, testing and validating the project outcomes.

Task 5.1 Case study coordination and reporting

WP5 leader (case study coordinator), together with Case-study Champion from each participating country, optimizes the process of each case study according the objectives.

Living Labs are set for creations and testing of value modeling-methods, value analyze-methods, value prediction-methods and value-sharing-methods.

Main process phases of a Case study:



Task 5.2 Finnish case studies

Case FIN 1. Owner: Senate Properties

The interest of public property owners lies in developing tools and methods for value management using the collected feedback from BIM–based projects instructed accordingly common requirements (Senate Properties BIM-Guidelines).

Case FIN 2. Owner: Skanska

Objectives: Testing the value-driven business possibilities of Design–Build–Operate–procurement enabled by advanced use of BIM based processes. Testing will include virtual process simulation and business scenario work using value models of the client (here Senate Property). Case study will use the BIM model of construction project "Europa-school" for optimizing the information management process and needed value-information and technical data transfer from as-built model to maintenance-model.

Case FIN 3. Owner: Ruukki Construction

Task 5.3 Norwegian case studies

The Norwegian case studies of ongoing building projects are selected for both WP1, WP3 and WP4 work. The main purpose of these case studies is to identify business model factors impacting on the value added for the user, client and society in so-called BIM-projects.

Case 1. The University of Stavanger. Client: Statsbygg.

An ongoing university building project in the south-western part of Norway. The first Norwegian public project where the implementation and use of BIM was formulated as a requirement in the call for tender (2008). It is an aim that BIM shall be used in all phases of this project, according to Statsbyggs BIM guidelines.

Task 5.4 Swedish case studies

Landstingsfastigheter [County Council Properties] in Jönköping has developed a management system for controlling and supporting its processes. The aim is to strengthen the client's role through active assumption of responsibility for acting correctly from the start, involving clear instructions, guidelines that set value related goals and good solutions that can be re used.

The enlarging of the University hospital in Malmö Sweden (UMAS) is an ongoing project at about 19000 m^2. The client for the project is RegionService. The goal of the project is to create a modern emergency treatment.

Task 5.5 Cypriot case studies

The Cypriot case studies are based on government and private entities that are in process to develop unique infrastructures in the City of Limassol, ideal for ValPro project.

Case 1: Cyprus University of Technology CUT is based in the Lemesos District in Cyprus. The case study will be focused on the University campus which will expand to an area of approximately 50,000 m^2, within the city centre.

Case 2: Burberry Overseas Ltd is a dynamic private group focusing in Land Development and managed to owe a large area in the Limassol city centre and expected to build a new entertainment centre of total area of 3500 m^2. The new development is located in a prime location in the city centre and will offer apart for the public parking places around private parking spaces.

Task 5.6 Danish case studies

The three Danish case study areas, already selected for the initial WP work, to illustrate the richness of the analyses.

Case 1. Ørestaden, Copenhagen is the largest single construction site in Scandinavia, combining a variety of new and existing facilities for residence, education and research, commercial and public services, held together by an advanced infrastructure, including the capital city's new metro system. The models for value creation and value extraction by the investors (including the city) are many and some of these represent new modes of public-private partnerships to advance design and construction processes and to manage dynamic, long-term value creation.

Case 2. The Carlsberg City, Valby (Copenhagen): Recently, 221 architects from around the world took part in a conceptual idea competition to transform a 330,000 m^2 brewery site to a vibrant urban district. The competition also triggered strong engagement of the general public in planning new facilities and in shaping a partly new city area.

Case 3. The CBS urban campus, Frederiksberg (Copenhagen): a principal element of the grand transformation of the Frederiksberg city area into an integrated part of metropolitan Copenhagen. The borders of this new 'city campus' are deliberately being blurred in order to benefit more from the resources of the wider urban fabric.

Deliveables: D7 – Case study guidelines (m3). D8 – Case study reports (m21).

Milestones: M1 – Case study guidelines and Target plans (m3). M4 – Case studies completed (m21).

WP6 Dissemination

(Lead: CHA. Partners: ALL).

Objectives:

This work-package aim is to disseminate and promote the deliverables developed under the ValPro project. The overall vision is to ensure availability and impact of all project results on the European Building and Real Estate sector by a widespread dissemination of results achieved.

Task 6.1 Communication Plan and actions

A Communication Plan will be developed which will define the dissemination strategy and the results and tools to be used.

Task 6.2 Coordination Meetings and Workshops

All partners will have to participate and to contribute to the fulfillment of coordination and technical meetings, which will be divided up into two parts: administrative and scientific issues.

Task 6.3 Website

A Web site will be launched at the beginning of the ValPro project. This site will be accessible to the public providing general information about the ValPro research areas including publications.

Deliverable: D9 – Dissemination plan and reports (m3, m9, m15, m21, m24)

Various dissemination activities including: print media activities (journal articles, press releases and interviews, and scientific publications), internet activities, events (Kick-off, project conferences, workshops etc.) and networking.

Milestones: M1 - Communication plan and website (m3). M2 - 1st public workshop (m9). M3 - 2nd public workshop (m15). M4 - 3rd public workshop (m21). M5 - Final Event. Dissemination activities completed (m24).

WP7 Management

(Lead: VTT)

Objective: Coordination of activities in ValPro, including project internal communication and meetings (MB and SC). Supervision of project progress and communication with Eracobuild secretariat.

Task 7.1: Overall project administration

Monitoring project progress by periodic reports from each participant (every 3 months). Preparation and delivery of project deliverables and reports to Eracobuild. Project Steering Committee (SC) meetings.

Task 7.2: Overall technical coordination

Maintaining project technical and scientific focus. Facilitating collaboration between participants on international level. Technical quality control. Project Management Board (MB) activities and meetings.