



Project: TRAINENERGY
IEE/08/536 SI 2.528397

REPORT ON FIVE SELECTED CRAFTS
Deliverable 2.4

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The French partners conducted a collaborative work with the Danish partners, according to the methodology of “Professionalisation durable” which had been mentioned on the submission form.

Below is the outcome from this common work which was sent to the partners for additional comments.

- **Step 1** : The activities and the tasks expected from a craftsman* in the building industry relating to the EPBD 2002 directive
- **Step 2** : Activities and tasks, developed from the method “professionalisation durable” so that the partners can agree or make comments... draft 1
- **Step 3** : **From the comments and results of step 2**, DRAFT submitted to the partners for comments : the job profile - new aspects of the jobs – Pointing out competences / skills

Based on the feedback of the partners, during the meeting in Paris, we drew the survey which would point out training to be done. The 5 crafts which would have to be taken into account for the training to be done.

The selection of the below listed craft became a natural consequence of the questionnaire carried through in the spring of 2010. The following five professions were selected:


- BRICKLAYER
- PLASTERER
- HEATING COOLING AND VENTILATION
- CARPENTRY & JOINERY
- ELECTRICAL INSTALLATION

STEP 1 : starting point : DACUM CHART – the activities and tasks expected from a craftsman* in the building industry relating to the EPBD 2002 directive

Activities – great logical and/or chronological sequence of work	Tasks – work to be made			
Counseling – in order to provide service and energy efficient solutions for the client	Inform the client on how different laws and regulations influence the solution	Create illustrations and visualizations for the client that provides the client with a full picture of how different solutions intervene – holistic counseling	Convince clients (and colleagues) that energy efficient solutions make sense	Calculate solutions and compare in scenarios of long term operations
Energy assessment – in order to establish what needs to be done and to evaluate job done	Measure the state of things (blower door, infrared survey, the geometry of the dwelling..)	Survey analysis and reporting	Establish comparative investigations and analysis both in relation to new buildings and to older	Recommendations based on evidence
Craft – in order to implement energy efficient solutions	Selecting partners through a common understanding of energy saving measures – and quality	Selecting state of the art materials and technology	Read and work according to guiding principles in relation to material and constructions	Plan and perform quality assurance
Planning – in order to assure that the right solution is designed up front	Select and evaluate components and materials based on impact analysis – price, durability and performance	Set up/ understand drawings so it is evident how to place and install vapour barrier, heating palnt, ventilation and piping,	Set up/ understand time schedules are so they are realistic and understood by everyone	Communicate and augment in order to conceptualize the entire building phase through the inclusion of other professions
Documentation -	Produce adequate and legally bound documentation	Perform different documentation techniques i.e. photo, video and/or written communication	Track faults and interrelation between misfortunes and mistakes	

During the Dacum workshop it became obvious for the workshop participant that there is no big difference between the activities of the different craftsman . Therefore we do not distinguish between the different crafts in our chart.

STEP 2 : Activities and tasks, developed from the method “professionalisation durable” so that the partners can agree or make comments... draft 1 submitted to the partners

ACTIVITY 1 – Participation to the counseling								
Participation to the following tasks 		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1	Listens to the customer’s demand and analyses his needs	X						
Task 2	Inform the client on laws and regulations about energy savings	X						
Task 3	Provides the client with a full picture of how different solutions intervene, taking into account the “state of thing”	X						
Task 4	Explain the client on how laws and regulations influence the solution	X						
Task 5	Inform about the financial aspects of the different solutions	X						
Task 6	Help the client to choose a solution, according to the different elements of his context)	X						
Task 7	Make a technical and functional specifications	X						
Task 8								
Task 9								

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ACTIVITY 2 - Participation to Selling								
Participation to the following tasks ↓		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1	Develop a quote, based on defined technical specifications	X						
Task 2	Negotiate the proposal with the customer	X						
Task 3	Contractualize sale	X						
Task 4	Make and track bills (financial follow up)	X						
Task 5	Fill in administrative forms with the end of the payment	X						
Task 6								
Task 7								
Task 8								
Task 9								

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ACTIVITY 3 - Energy assessment		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1	Measure the state of things (blower door, infrared survey, the geometry of the dwelling..)	X						
Task 2	Ensure survey analysis and reporting	X						
Task 3	Establish comparative investigations and analysis	X						
Task 4	Calculate solutions and compare in scenarios of long term operations	X						
Task 5								
Task 6								
Task 7								
Task 8								
Task 9								

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ACTIVITY 4 - Planning and realisation		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1	Select partners, in adequacy with the chosen solution	X						
Task 2	Select materials and technology according to the technical specification	X						
Task 3	Set up time schedules	X						
Task 4	Plan and perform quality assurance	X						
Task 5	Ensure the following up of the work to the handing over	X						
Task 6	Fill in certificates and administrative documents linked to quality and energy saving	X						
Task 7								
Task 8								
Task 9								

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ACTIVITY 5 - Communication		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1	Produce adequate and legally bound doc -Perform different documentation techniques i.e. drawings, photo, video and/or written communication	X						
Task 2	Create illustrations and visualizations for the client	X						
Task 3	Communicate and augment in order to conceptualize the entire building phase	X						
Task 4	Includes communication / coordination with other professions	X						
Task 5	Send the relevant certifications and administrative forms to the adequate structures	X						
Task 6								
Task 7								
Task 8								
Task 9								

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ACTIVITY 6 – Participation to the collective skills of the firm		Germany	France	Ireland	Italy	Poland	Spain	United Kingdom
Task 1	Intelligence activities (on the materials, the laws, the job...)							
Task 2	Self training or planned training							
Task 3							
Task 4								
Task 5								
Task 6								
Task 7								
Task 8								
Task 9								

That's why :
Convince clients (and colleague) that energy....
Is not a task : this is to be written in the context of the job, as an introduction before the standards

**This activity and these tasks can only be taken into account if the time spent for that is on the time table of the employee...
 The tasks are : time spent, time paid, time on the working time in the company**



(if an activity has to be added by the partners)

ACTIVITY 7-								
		Denmark	France	Ireland	Germany	Poland	Spain	United Kingdom
Task 1								
Task 2								
Task 3								
Task 4								
Task 5								
Task 6								
Task 7								
Task 8								
Task 9								

.....

**STEP 3 : from the results of step 2, DRAFT submitted to the partners for comments : the job profile - new aspects of the jobs –
Pointing out competences / skills**

ACTIVITY 1 – Participation to the counselling			
Participation to the following tasks ↓		SKILLS (S1, S2, S3.....) To carry out with the defined tasks, the craftsman should be able to participate to... ↓	
Task 1	Listens to the customer’s demand and analyze his needs	S1	Develop an understanding of the clients’ demand using active listening techniques
		S2	Analyse the clients’ demand to bring out the client’s needs
		S3	Map the customers’ needs, using own understanding of energy efficiency in buildings
Task 2	Inform the client on laws and regulations about energy savings	S1	Read, inquire, learn and keep abreast on his own about laws and regulations on energy saving
		S2	Inform the client about the laws, regarding the “state of things” and the client’s needs
Task 3	Provides the client with a full picture of how different solutions intervene, (taking into account the “state of thing”, explaining how laws and regulations influence the solutions, informing on the financial aspects)	S1	Draw out the possible solutions and present them in a clear and communicative way, using different visualization techniques
		S2	Explain the client on how laws and regulations influence the solution
		S3	Participate in a dialog with other craftsmen on how to establish a holistic picture of specific solutions regarding technology and building processes





		S4	Calculate energy savings in relation to return on investment, using softwares
		S5	Communicate and present the financial aspects using graphical spreadsheets
Task 4	Help the client to choose a solution, according to the different elements of his context	S1	Compare technologies and their effect, taking into account the financial aspects : highlight their strong and weak points linked to energy saving, using knowledge of different crafts in the building industry
		S2	Answer the client's questions, taking into account his needs, his financial resources to help to find out the best solution
Task 5	Make technical and functional specifications	S1	Write down the defined solution, pointing out all the steps, the technical specifications, the financial aspects, the timing, the quality aspects and the particular demands of the customer
		S2	Specify the technical and functional solutions using software

ACTIVITY 2 - Participation to Selling

Participation to the following tasks ↓		To carry out with the defined tasks, the craftsman should be able to participate to ... ↓	
Task 1	Develop a quote, based on defined technical specifications	S1	Calculate the cost linked to the duration of the work and the needed workers
		S2	Calculate the exact total price of the needed material regarding the technical specifications
		S3	Develop a quote, using computer tools
Task 2	Negotiate the proposal with the customer	S1	Present and explain the financial proposition, linked to the functional specifications

		S2	Justify a given price set
		S3	Modify the proposition, according to the customer's demand, taking into account the good feasibility of the work and the needs of the worksite preserving the benefits
Task 3	Contractualize sale	S1	Contractualize the sale, according to the laws, the use of the company
		S2	Add all the relevant documents to be signed as explanations / proofs of what has exactly to be done and the expected results
		S3	Make the proposition signed
Task 4	Ensure the administrative follow up	S1	Ensure the payment is ordered and done at every step of the work : make and track bills
		S2	Ensure the reception of the work with the customer
		S3	Fill in administrative forms all along the payment and with the end of the payment

ACTIVITY 3 - Energy assessment			
Participation to the following tasks 		To carry out with the defined tasks, the craftsman should be able to participate to ... 	
Task 1	Measure the state of things	S1	Take all the measures of dwelling
		S2	Establish comparative investigations and analysis : perform energy assessment based on different methods and techniques (Survey infrared, blower...)

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		S3	Design a comprehensive of a given dwelling applying knowledge on energy installations and building envelope
Task 2	Ensure survey analysis and reporting	S1	Analyse the energy efficiency, using specific techniques for the energy consumption
		S2	Evaluate results
		S3	Write a report specifying the energy efficiency of a given dwelling
Task 3	Elaborate solutions and compare them in scenarios of long term operations	S1	Work with scenario modelling
		S2	Find out solutions for the customers, taking into account the “state of things” in accordance with laws and regulations regarding energy saving



ACTIVITY 4 - Planning and realisation

Participation to the following tasks ↓		To carry out with the defined tasks, the craftsman should be able to participate to ... ↓	
Task 1	Select partners, in adequacy with the chosen solution	S1	Evaluate the technical specifications and the work to be done
		S2	Define the needed competences and skills
		S3	Propose and set up workgroup in adequacy with the job to perform
Task 2	Select materials and technology according to the technical specification	S1	Search for a panel of appropriate material, in adequacy with the technical and functional specifications and with the financial aspects
		S2	Choose the optimum material

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Task 3	Set up time schedules	S1	Use basic project planning tools (ICT)
		S2	Set up the relevant schedule, managing the different trades in the different steps, and taking the contractual end date into account
Task 4	Plan and perform quality assurance	S1	Regarding the work to be done, gather all the documents which will be used all along the building site, referring to the quality
		S2	Check all along the building site if the work is in phase with the quality indicators
		S3	Fill in the appropriate quality documents when needed
Task 5	Ensure the following up of the work to the handing over	S1	Monitor the building process : <ul style="list-style-type: none"> - Check if the work is on time - Check there is no unexpected incident (team, material...) - Give the corrective measures when needed
		S2	Fill in the appropriate documents when needed

ACTIVITY 5 - Communication

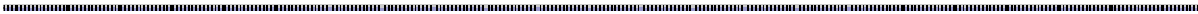
Participation to the following tasks 		To carry out with the defined tasks, the craftsman should be able to participate to ... 	
Task 1	Produce adequate and legally bound documents, Create illustrations and visualizations for the client	S1	Use different communication techniques : <ul style="list-style-type: none"> - Draw - Uses computerized means (ICT : Word, PowerPoint, Excel...) - Photography - Make videos ...

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		S2	Produce documents varying the techniques according to the different purposes : Visualise technical solutions through different means of media – photo, 3d, video
Task 2	Communicate and augment in order to conceptualize the entire building phase	S1	Give meaning to the whole building process for the client and for the colleagues in the construction team
		S2	Communicate / coordinate with other professions about the building site and / or the project
Task 3	Send the relevant certifications and administrative forms to the adequate structures	S1	Communicate with the official authorities regarding the building process and the chosen technical solutions
		S2	Communicates with the different authorities, according to the thematic documentation : quality, permits, permissions, waste management...





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ACTIVITE 1 – Participation au conseil			
Participation aux tâches suivantes ↓		Compétences (S1, S2, S3.....) Pour mener à bien les tâches définies, l’artisan doit être capable de participer à...	
Tâche 1	Ecouter et analyser les demandes et les besoins du client	S1	Développer une compréhension de la demande des clients en utilisant techniques d'écoute active
		S2	Analyser la demande des clients pour faire ressortir leurs besoins
		S3	Carte besoins des clients, en utilisant sa propre compréhension de l'efficacité énergétique dans les bâtiments
Tâche 2	Informier le client sur les lois et les règlements sur les économies d'énergie	S1	Lire, s'informer, apprendre et se tenir au courant de son propre chef sur les lois et règlements sur l'économie d'énergie
		S2	Informier le client sur les lois, concernant «l'état des choses» et ses besoins
Tâche 3	Fournir au client une image complète des différentes façons d'intervenir, (en tenant compte de l'«état des choses», en expliquant comment les lois et les règlements peuvent influencer sur les solutions, informer sur les aspects financiers)	S1	Dessiner les solutions possibles et les présenter de façon claire et communicative, en utilisant différentes techniques de visualisation
		S2	Expliquer au client la façon dont les lois et règlements influencent la solution
		S3	Participer à un dialogue avec d'autres artisans sur la façon d'établir une image globale des solutions spécifiques concernant les processus technologiques et de construction
		S4	Calculer les économies d'énergie par rapport à un retour sur investissement, en utilisant des logiciels



		S5	Communiquer et présenter les aspects financiers en utilisant des tableurs graphiques
Tâche 4	Aider, en fonction du contexte, le client à choisir une solution	S1	Comparer les technologies et leurs effets, en tenant compte des aspects financiers: mettre en évidence leurs points forts et faibles liés aux économies d'énergie, utilisant la connaissance des différents métiers de l'industrie du bâtiment
		S2	Répondre aux questions du client, en tenant compte de ses besoins, ses ressources financières pour aider à trouver la meilleure solution
Tâche 5	Faire des spécifications fonctionnelles et techniques	S1	Écrire la solution définie, en soulignant toutes les étapes, les spécifications techniques, les aspects financiers, le calendrier, les aspects qualité et les exigences particulières du client
		S2	Spécifier les solutions techniques et fonctionnelles en utilisant le logiciel

ACTIVITE 2 - Participation à la vente

Participation aux tâches suivantes ↓		Pour mener à bien les tâches définies, l'artisan doit être capable de participer à... ↓	
Tâche 1	Développer un devis, en fonction de spécifications techniques définies	S1	Calculer le coût lié à la durée du travail et les travailleurs nécessaires
		S2	Calculer le prix total exact de la matière nécessaire
		S3	Développer un devis, en utilisant des outils informatiques
Tâche 2	Négocier une proposition avec le client	S1	Présenter et expliquer la proposition financière, liée à des spécifications fonctionnelles

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		S2	Justifier un ensemble de prix donné
		S3	Modifier la proposition, selon la demande du client, en tenant compte de la faisabilité du travail et des besoins du chantier
Tâche 3	Contractualiser la vente	S1	Contractualiser la vente, selon les lois de l'entreprise
		S2	Ajouter tous les documents pertinents qui doivent être signés dans les explications / preuves de ce qui est exactement à faire et les résultats attendus
		S3	Faire la proposition signée
Tâche 4	Assurer le suivi administratif	S1	Assurer le paiement à chaque étape du travail: rendre et suivre les factures
		S2	S'assurer avec le client que les travaux sont faits
		S3	Remplir des formulaires administratifs tout au long du paiement et à la fin du paiement



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ACTIVITE 3 – Evaluation énergétique			
Participation aux tâches suivantes ↓		Pour mener à bien les tâches définies, l’artisan doit être capable de participer à... ↓	
Tâche 1	Mesurer l’état des choses	S1	Prendre toutes les mesures de l'habitation
		S2	Établir des enquêtes et des analyses comparatives: effectuer une évaluation énergétique basée sur différentes méthodes et techniques (Enquête infrarouge, souffleur ...)
		S3	Conception d'une enveloppe globale, d'un logement donné, connaissances sur les installations énergétiques
Tâche 2	Assurer l'analyse des rapports d'enquêtes	S1	Analyser l'efficacité énergétique, en utilisant des techniques spécifiques pour la consommation d'énergie
		S2	Evaluer les résultats
		S3	Rédiger un rapport précisant le rendement énergétique d'une habitation donnée
Tâche 3	Elaborer des solutions et les comparer dans des scénarios d'opérations à long terme	S1	Travailler avec la modélisation de scénarios
		S2	Trouver des solutions pour les clients, en tenant compte de «l'état des choses», conformément aux lois et règlements concernant l'économie d'énergie

ACTIVITE 4 - Planification et réalisation			
Participation aux tâches suivantes ↓		Pour mener à bien les tâches définies, l'artisan doit être capable de participer à ↓	
Tâche 1	Sélectionner des partenaires correspondant aux solutions choisies	S1	Évaluer les spécifications techniques et le travail à faire
		S2	Définir les compétences et les skills nécessaires
		S3	Proposer et mettre en place un groupe de travail en adéquation avec le travail à effectuer
Tâche 2	Sélectionner du matériel et des techniques en accord avec les spécificités techniques	S1	Recherche d'un panel de matériel adapté, en adéquation avec les spécifications techniques et fonctionnelles et les aspects financiers
		S2	Choisir le matériau optimal
Tâche 3	Mettre en place le calendrier	S1	Utiliser les outils de base de planification du projet (TIC)
		S2	Mettre en place le calendrier pertinent, la gestion des différents métiers dans les différentes étapes, et en prenant la date de fin contractuelle en compte
Tâche 4	Plan et performance d'assurance qualité	S1	Concernant les travaux à faire, rassembler tous les documents qui seront utilisés tout au long du chantier, se référant à la qualité
		S2	Vérifier tout au long du chantier si les travaux sont en phase avec les indicateurs de qualité
		S3	Remplir les documents de qualité appropriés en cas de besoin

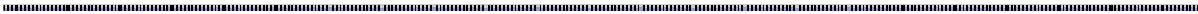
Tâche 5	S'assurer que le travail se fait correctement	S1	<ul style="list-style-type: none"> - Surveiller le processus de construction: - Vérifier si le travail est à temps - Vérifier qu'il n'ya aucun incident inattendu (équipe, matériel ...) - Donner les mesures correctives si nécessaire
		S2	Remplissez les documents appropriés en cas de besoin

Activité 5 - Communication

Participation aux tâches suivantes 		Pour mener à bien les tâches définies, l'artisan doit être capable de participer à 	
Tâche 1	Produire des documents adéquats et légaux, créer des illustrations et des visualisations pour le client	S1	Utiliser différentes techniques de communication : <ul style="list-style-type: none"> - Dessiner - Utiliser des moyens bureautiques (ICT : Word, PowerPoint, Excel...) - Photographier - Faire des vidéos
		S2	Produire des documents, dans différents buts, en variant les techniques : Visualiser les solutions techniques par des médias différents – photo, 3d, video
Tâche 2	Accroître la communication au sujet de la phase de construction entière	S1	Donner un sens à l'ensemble du processus de construction pour le client et pour les collègues de l'équipe de construction
		S2	Communiquer / coordonner avec d'autres professions sur le site de construction et / ou le projet
Tâche 3	Envoyer les certifications pertinentes et les formulaires administratifs aux structures adéquates	S1	Communiquer avec les autorités officielles sur le processus de construction et les solutions techniques retenues

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		S2	Communiquer avec les différentes autorités, selon la documentation thématique: la qualité, les permis, les autorisations, la gestion des déchets ...
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