

BLUEPRINT KICK-OFF WORKSHOP

INTEGRATED DESIGN PROCESS

International Energy Agency, Solar Heating and Cooling

Task 23

Optimization of Solar Energy Use in Large Buildings

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1. Introduction and objective

An integrated design process is not established by just providing information and tools. Experience show that the human factor is the most important issue. Above of all there should be a clear understanding of the nature of integrated design and the consequences. This concerns the selection of the members of the design team (competence, motivation) and the structure of the interrelations within the team and the structure of the process (fee structure, responsibilities, quality control, process structure, subdivision of building cost targets, etc.)

If the conditions to start an integrated design process are fulfilled and a proper team is selected, it is very important to have a well prepared Kick-off Workshop in order to accomplish a common understanding about the design task and the process.

In the following chapter the objective of such a workshop and a blueprint for how to run it is described. The issues to deal with in this workshop are taken into consideration in chapter 3.

The blueprint outlines a possible approach to a Kick-off workshop. It should not be considered as a prescription for how to execute a Kick-off Workshop. There are of course other options. The necessity and the form of the workshop depends on the characteristics of a specific project and specific actors. The blueprint presented nevertheless takes into account the experiences within IEA SHC Task 23.

In most of the cases the members of the design team do not meet for the first time. They might already know each other from earlier projects, or experienced each other in negotiating their contracts. This means that the interrelations are already established to a certain extend. The nature of this relation can have a positive effect on the success of the team or there can be some tensions between the actors that form an obstacle if they are not taken care of in a proper way. A Kick-off Workshop is an effective means to deal with those predefined relations and reduce the risks.

2. Framework of the Kick-off Workshop

The main objective of the workshop is to create common understanding at the beginning of the design process with regard to three important notions:

- a. Understanding about the integrated design process,
- b. A clear perception of the design task,
- c. A cooperative and open attitude towards the other members in the design team.

These can therefore be considered as the goals of the workshop.

In order to establish a common understanding about the essence of **Integrated Design**, the team members should be informed and adapt the integrated design approach, not as a rigid process but as an inspiring and flexible structure. In case the design team is not experienced in integrated design an introduction on the integrated design process by an expert is an appropriate means of knowledge transfer. If integrated design is executed for the first time, it is advisable to make use of a facilitator to coach the team and provide the necessary information.

The **design task** and the brief (or the program of requirements) in building projects are not identical. The design task includes all expectations and requirements of the client. Also information about the client's judgement on relative importance of the different building performances is necessary. A clear perception of the design task is crucial for a successful integrated design. It reduces miscommunication, sub-optimisation and it enhances the internal consistency of the design because associations and generated ideas become more convergent. This will result in a better cost performance ratio. A clear and explicit design task is also the basis for a workable description of modifications in the task if circumstances or the client's wishes change during the process.

All these considerations stress the importance of focussing on the design task at the start of the process.

An **open attitude** towards the other members is crucial for the success of the design. This implies that each of the actors has the willingness and capabilities to communicate about building design, based on his own expertise, but beyond the borders of his own discipline. Trying to understand the professional culture of the other members and looking for synergy is highly effective. The consequence is that the members have to experience that they are part of a team working on the development of one product. Fear and uncertainties may cause a team member to withdraw from openness to a closed attitude in the center of his discipline and is thus not participating anymore. These uncertainties can be provoked by lack of expertise or social skills, by financial risks or for instance a negative relation resulting from former experiences. The first two reasons are primarily related to competence. Financial risk should be dealt with in advance in the contract and fee structure, while resentment should be dealt with bilaterally or in the workshop. It is the responsibility of the team leader to be aware of this aspect and decide how this can be managed in a proper way. Apart from those specific concerns the willingness of team members to act in an open and constructive way is highly influenced by the atmosphere in the team.

Creating **team spirit** is an important issue that is not addressed separately. Building team spirit starts when the workshop begins and should be stimulated and advanced during the whole workshop. In order to stimulate team spirit it is recommended to intensify the interaction between the participants during the workshop.

The framework of a Kick-off Workshop that serves the three goals mentioned earlier, could therefor be as follows:

1. Welcome
2. Presentation of the participants
3. Introduction on Integrated Design *(by an expert from the team or facilitator)*

Break
4. Discussion on the characteristics of the Integrated Design Process *(by an expert from the team or facilitator)*

Break
5. Presentation of the design task and discussion *(by the client, if necessary supported by the architect or the project manager)*

Break
6. Ideas on appealing themes in the design task *(shared by client, project manager or architect)*
7. Define homework
8. Adjourn

Knowledge about the integrated design process (goal “a”) is provided in step 3 and 4 of the workshop, while goal “b” (a clear perception of the design task) is primary addressed in step 5 and also in step 6 and 7. The goal “c” concerning the open attitude is explicitly covered in steps 2, 4, 6 and 7.

This framework is elaborated in the next chapter.

3. The workshop in detail

Dependent on the complexity of the design task the workshop should take half to one day. If a more extensive approach is needed the framework should be revised accordingly. The workshop should be as short and effective as possible. A workshop that is considered to be too time consuming is a poor start for integrated design.

Each of the items from the proposed agenda in the framework is briefly described in the following. It addresses the goals to pursue, the means to use and the leading participant(s).

1. Welcome

description: Clarify the objective of the workshop and discuss the agenda. Make clear that it is a special occasion. Make the participants eager to start.
leading person: Chairman

2. Presentation of the participants

description: Let the participants introduce themselves, let them explain their attitude towards integrated design and express their expectations. This item can provide valuable information about the attitude of the participants, their interests and reservations.
goal: This is a step towards an open attitude and also provides some preliminary knowledge about the design process.
means: Interests and reservations can be collected in a such a way that the participants can behave in a passive way or hide themselves (if the answers are given by turn an passive attitude is likely). A more dynamic way of gaining the information is preferable (e.g. writing down interests and reservations on notes and collecting them on a board, invites everyone) In the last case participants are invited to play a more active role.
leading person: Chairman (react on the statements and relate them to the integrated design process)

3. Introduction on integrated design

description: The process of integrated design with its advantages and threats is presented. The general expectations regarding the participants is made explicit. The available tools are briefly explained. This is all illustrated with experiences from practice.
In the end there must be a common understanding about the integrated design, the tools to be used and the role of the different members of the design team.
goal: The aim is to achieve a clear perception of the integrated design process as an generic approach. At the same time a contribution is made towards an open attitude.
means: Presentation illustrated with examples. Discussion and questioning to clarify and check if there is a common understanding.
leading person: Expert from the team or a facilitator

Break

4. Discussion on the characteristics of the Integrated Design Process

description:	The process of integrated design is explained under step 3 in a general way. The Integrated Design Process approach has to be discussed with respect to the specific project and the specific role and skills of the members of the design team. Although the actors may have a sound expertise in performing in a design team, an Integrated Design Process requires a different structure, additional skills and a different attitude that needs to be understood clearly. It is not possible to make this clear just by presenting the features of an Integrated Design Process. A vivid discussion is necessary to really understand the impact of Integrated Design Process for each of the different members of the team and to determine a project specific approach for the Integrated Design Process. In the Integrated Design Process Guidelines a number of Key-Issues are described and discussed. These Key-Issues very much relate to how to achieve a proper and adequate process structure and addresses the requirements concerning the role and competence of the actors. The Key Issues are a good basis as a structure for the discussion.
goal:	This is the main activity to reach the goal of a clear perception of the integrated design process as a project specific approach. The actors are aware of the risks and success factors and know what is expected from them. They commit themselves to this design task.
means:	A guided and well prepared discussion based on the Key-Issues relevant for this specific project. Use statements and examples to support the discussion. Risks and skepticism should be dealt with in an open and constructive way.
leading person:	Expert from the team or a facilitator

Break

5. Presentation of the design task and discussion

description:	The design task (brief, expectations and relative importance of building performances) is explained and discussed by the participants and the chairman. The discussion should not be restricted to the straight forward questions. Clarification can also be derived from questions that address alternative approaches (Did you think of ...).
goal:	The goal is to create a clear understanding of the design task and develop an open mind for perception of the other participants.
means:	Presentation and discussion. The MCDM 23 could be used as an instrument to support the communication and establish a common understanding. The MCDM session should be well prepared in order to avoid spending unnecessary time.
leading persons:	Chairman or facilitator is responsible for a in depth discussion. Client presents his expectations, if necessary supported by the architect or a project manager.

Break

6. Ideas on appealing themes in the design task

- description:** This should be based on the perception of the design task and the characteristics of the building that were highlighted by the client. The team (including the client) will consider the design task and generate key characteristics, that have the potential of being appealing themes to focus the design. Two or three of the most attractive themes are chosen, as a starting point. This should not be considered a decision, but is a first basis for the homework to be made (see step 6). Seconds thought's are possible after reconsidering the design task during homework. It is very important to make this session an inspiring experience. This can be the appetizer for the design loops to come.
- goal:** This activity stimulates an open attitude and detaches the participants from their conventional approach.
- means:** Brainstorm-like approaches can be used to organize this session.
- leading persons:** Chairman or facilitator is responsible for organizing and leading this session.

7. Define homework

- description:** In order to avoid a too technological start, the homework should be defined as developing a conceptual approach for the building based on the discipline of the specific design team member but not necessarily limited to that field of knowledge (crossing borders is OK).
- goal:** The goal is to develop an open attitude and learn to include the essence of the design task.
- means:** Presentation.
- leading persons:** Project manager, architect or facilitator is responsible for the development of the homework

8. Adjourn