



Offsite

Understanding Offsite: Procurement

A Guide for trainers



Introduction to this Course

Introduction to the Offsite Skills Project

The Improving Skills in Offsite Construction Project was developed by the Supply Chain Sustainability School, in partnership with the Manufacturing Technology Centre (MTC) and National Open Colleges Network (NOCN) and with funding from the Construction Industry Training Board (CITB). The project is divided into six courses: Design; Procurement; Quantity Surveyors and Cost Consultancy; Logistics; Project Management and Site Management. All the courses provide the fundamental content required to help professionals better understand what they need to do differently when adopting offsite construction techniques.

Course Aims

Purpose: To educate participants on the requirements needed for successful procurement within offsite construction.

On completion of this course, participants will have a greater understanding of:

- How to inform clients' strategies and the different approaches;
- The requirements needed to inform procurement strategy:
 - Forms of contract
 - Influence of client's business, programme or project strategies
 - Risk profiles
 - Offsite/near-site/onsite strategies
 - Procurement frameworks
 - RIBA stages
- How and when to contract with suppliers:
 - Early engagement
 - Forms of collaboration
 - How to manage your supply chain



- The requirements needed to assess the offsite supply chain and find information on key manufacturers:
 - Maturity
 - Capacity
 - Security/financial stability
 - Cashflow
 - Diversification pipeline/workload
 - Health and safety
 - Factory quality control
 - Quality assurance process
 - Accreditation
 - Innovation
 - Digital capability
 - Assurance

The participants need to come away feeling more knowledgeable about procurement for offsite construction and importantly what skills and knowledge they can implement on a project.



Course Learning Outcomes

The course is split into two main parts: Offsite Fundamentals and Procurement Process. Within each of these parts are individual sections.

Part 1 – Offsite Fundamentals

1. Great examples of offsite design

By the end of this module the participants should be able to:

- Have an appreciation of offsite residential designs;
- Have an appreciation of offsite non-residential designs;
- Have an appreciation of offsite infrastructure designs.

2. MMC Definition Framework

By the end of this module the participants should be able to:

- Understand the importance of using the Modern Methods of Construction (MMC) Definition Framework to speak a ‘common language’;
- Know the MMC Spectrum and that the framework consists of categories 1-7;
- Have an appreciation of how different MMC systems are categorised.

3. Construction Industrialisation

By the end of this module the participants should be able to:

- Understand that construction industrialisation is the underlying process behind Design for Manufacturing and Assembly (DfMA) and MMC;
- Understand the five core activities of construction industrialisation, from design through to ‘in use’.

Part 2 – Procurement Process

1. Identify the Business Need

By the end of this module the participants should be able to:

- Understand the industry context;
- Understand the benefits and business case of offsite construction;
- Understand the Construction 2025 targets;
- Understand client and project drivers.



2. Define Sourcing Strategy

By the end of this module the participants should be able to:

- Understand the different offsite procurement approaches;
- Understand how procurement strategies are influenced by RIBA stages;
- Understand how optioneering can be successfully used to suit the offsite client and project drivers;
- Understand the value of standardisation;
- Understand that standardisation does not necessarily constrain designs;
- Understand procurement frameworks.

3. Identify Suppliers and Tenders

By the end of this module the participants should be able to:

- Understand the funding considerations;
- Understand the pre-tender options.

4. Assess the Supply Chain

By the end of this module the participants should be able to:

- Understand how to assess the offsite supply chain;
- Understand risk profiles;
- Understand and complete a balanced scorecard.

5. How and When to Award

By the end of this module the participants should be able to:

- Understand how and when to contract with offsite suppliers, and in which order;
- Understand the need for early engagement and forms of collaboration;
- Understand the forms of contract available.

6. Review and Learn

By the end of this module the participants should be able to:

- Understand how to manage your offsite supply chain;
- Understand the roles and responsibilities required of all parties to achieve continual improvement.





The Trainer's Role

- The facilitator needs to enable a course environment for hands-on discussion and learning, such that the delegates leave understanding how they can use offsite construction in their day-to-day work.
- During the full-day session, the facilitator will remind the learners of the key components of offsite construction and will guide them through the process of applying procurement successfully to offsite construction.
- The facilitator needs to ensure that by the end of the course the participants have a solid understanding of the key learning outcomes:
 1. There is an offsite and MMC hierarchy;
 2. Differences in clients, projects types and site constraints will drive different offsite solutions;
 3. Different offsite solutions will influence different procurement strategies and will have implications on cashflow, health and safety, design freeze, contractual arrangements etc.
 4. Procurement professionals must know how to assess the offsite supply chain and the factors that influence contracts.
 5. After assessing and contracting with the offsite supply chain, procurement professionals must know how to manage the supply chain.



Preparation for a successful workshop

Before the workshop, the **facilitator** should:

- Using the course presentation, familiarise themselves with each slide and any speaker notes attached to it.
- Complete the **Offsite: Procurement e-learning module**.
- Familiarise themselves with the **offsite topic on the Supply Chain Sustainability School's website**, as well as **offsite related resources**.
- As the participants are recommended to complete an **offsite self-assessment**, the facilitator should also complete an offsite self-assessment so that they understand what the participants have been asked to complete.
- Edit the slide deck to include their own name and contact details.
- Edit the relevant slide to show the venue's wi-fi log-in details.
- Familiarise themselves with the location of the venue's facilities and the emergency procedures in the event of a fire; these should be communicated to the participants near the start of the session.
- Ensure that they have a copy of the **'Intro Loop'** PowerPoint file, which can be left running before the session starts and during any breaks.

Before the workshop, the **participant** should:

- Familiarise themselves with the **offsite topic on the Supply Chain Sustainability School's website**, as well as **offsite related resources**.
- Complete an **offsite self-assessment** to understand where their current gaps in knowledge are regarding offsite and to receive a tailored action plan of learning resources.

Who should attend?

This course is aimed at those involved in procurement, with little to no experience of offsite construction. We recommend that workshops of 15-20 people will enable good interactions, discussions and ideas on how offsite techniques can be used and integrated into day-to-day work.



Materials needed to run the Course

As the workshop requires a lot of hands-on discussion, the facilitator should prepare the following should they wish to take notes and thoughts from delegates throughout the day:

- White board space or flip chart paper
- Post-it notes

The trainer will also need enough hard copies of the following documents for each participant:

- Attendance sheet
- Feedback form
- Part 1 Exercise 3 – Construction Industrialisation
- Part 2 Exercise 2.4 - Strategy- Client Drivers
- Part 2 Exercise 2.4 - Strategy- Project Drivers
- Part 2 Exercise 2.4 -Strategy – Project Scenarios
- Part 2 Exercise 4.3 -Balanced Scorecard Template
- Handout – Example Balanced Scorecard



Course Programme: 6 hours

The following programme describes the activities the facilitator should lead the group of delegates on.

Encourage the delegates to provide their experience of offsite procurement and what skills and knowledge they can take forward into their future work – this will lead to more fruitful discussion and a sense of collaboration.

Section	Activity	Guidance notes for the trainer
Note: Timings are suggestions only		
	Welcome and Introductions	<i>10 minutes</i> Get the delegates to introduce themselves to each other, stating their role, experience and knowledge of offsite construction. Explain the aim and purpose of the day's course, including the learning objectives. Ensure each delegate signs the attendance sheet and is provided with a feedback sheet.
1	Offsite Fundamentals: Great examples of offsite design	<i>20 minutes</i> The sector case studies are to provide an overview of the types of buildings that can be constructed using offsite methods. Encourage the delegates to discuss their experience of offsite construction. <i>Part 1 Exercise 1: What are the benefits of an offsite approach?</i> This short 15-minute exercise requires the group to split into smaller groups, discuss the benefits and their experience. Consider using post-it notes so that each group can list the benefits, and then report back their findings to the overall group.
2	Offsite Fundamentals: MMC Definition Framework	<i>40 minutes</i> This is an important section that gives participants the fundamental knowledge they need to discuss offsite procurement in greater detail. The section provides detail on the MMC spectrum and information on each of the categories 1-7.



		Category 7 video: https://youtu.be/6s17IAj-XpU
3	Offsite Fundamentals: Construction Industrialisation	<p><i>40 minutes</i></p> <p>This section aims to help participants to understand where procurement fits within the whole construction industrialisation process.</p> <p>The interactive ‘Where are you now?’ question aims to get the participants to think about where their organisation is now and where they could be after attending this course. It is important to note that not all projects are appropriate to offsite and MMC, and the facilitator should explain that this is not a ‘more offsite is better’ question.</p> <p><i>Part 1 Exercise 3: What might Procurement need to know at each stage of construction industrialisation?</i></p> <p>This 20-minute exercise requires the group to split into pairs or threes. Using the worksheet ‘Part 1 Exercise 3 – Construction Industrialisation’ each group should take one element (design/manufacture/logistics/assembly/operations), discuss and make notes for 10 minutes and then report back. This should create discussion. Allow the group to draw on experience. The following slides then provide some suggested and common answers.</p>
	Break	<i>20 minutes</i>
1	Procurement Process: Identify the business need	<p><i>10 minutes</i></p> <p>This section provides a reminder of the case for offsite construction. Whilst this is already proven, it is important to get the participants to think about why it is proven and how it can improve their work.</p>
2	Procurement Process: Define Sourcing Strategy	<p><i>60 minutes</i></p> <p>This section aims to help participants to understand the factors that influence the sourcing strategy.</p> <p><i>Part 2 Exercise 2.4: Offsite client and project drivers</i></p> <p>The aim of this 30-minute exercise is for participants to explore the difference in full volumetric, component and traditional build approaches.</p>



You must provide the worksheets: *Exercise 2.4 - Strategy- Client Drivers*; *Exercise 2.4 - Strategy – Project Drivers* and *Exercise 2.4 - Strategy – Project Scenarios*.

Groups split into small groups, with some focusing on **client drivers** and some focusing on **project drivers**, with each using a **different project scenario**, from the project scenario exercise sheet. They should work in groups for 15 minutes, identifying on the radar diagram where on a scale of 1-10 the client/project drivers sit. They should then create a ring, linking the lines and forming a complete radar diagram (see slide 115 for an example of a completed radar diagram). Groups should do this first to show how a traditional construction might fulfil these drivers, then a second ring on the same worksheet to show how an offsite/MMC build would compare.

For the next 15 minutes, groups should report back their findings and discuss their reasoning.

Throughout this section, encourage the participants to share their own stories of procurement approaches, optioneering, collaboration, standardisation and frameworks.

	Lunch	<i>45 minutes</i>
3	Procurement Process: Identify Suppliers and Tenders	<i>20 minutes</i> This section encourages participants to understand the requirements and considerations of funding and pre-tender options.
4	Procurement Process: Assess the Supply Chain	<i>45 minutes</i> This section aims to help participants to know the actions they need to take to assess the offsite supply chain's capability and maturity. Compared with traditional construction, offsite has a much greater focus on manufacturing and assembling, therefore the procurement professional should know how to assess this supply chain appropriately. Part 2 Exercise 4.3 – Create a balanced scorecard Firstly, provide the handout, or get delegates to access the handout, <i>Handout – Example Balanced Scorecard</i> .



The aim of this half hour exercise is for participants to consider the factors they have learnt about and draw up two balanced scorecards: one for your existing supply chain in a traditional construction environment and the other for how you perceive a modular supplier might compare.

Split the participants into small groups, each taking one scenario: education; private housing development; railway line; healthcare. Give the participants 10 minutes to complete the handouts and then have a feedback discussion on thoughts and decisions. Encourage the participants to reflect on their own experiences.

You must provide the worksheet *Part 2 Exercise 4.3 – Balanced Scorecard Template*.

5	Procurement Process: How and when to award	<p><i>30 minutes</i></p> <p>This section provides the participants with an understanding of the need for early engagement and forms of collaboration, as well as understanding how and when to contract and with whom first.</p> <p>The question is asked: ‘What forms of contract do you currently use?’ – this is a group discussion point.</p>
6	Procurement Process: Review and Learn	<p><i>30 minutes</i></p> <p>The previous sections have taught how to assess and consequently award your offsite supply chain. This final learning section is to help participants to understand how to manage their offsite supply chain.</p>
7	Summary and close	<p><i>15 minutes</i></p> <p>Summarise and answer any questions. Remember to point the participants in the direction of further learning. Ensure the participants fill in a feedback form and have signed the attendance sheet.</p>



Related Workshops

The other courses in this Offsite Skills Project include:

- Understanding Offsite: Project Management
- Understanding Offsite: Quantity Surveying and Cost Consultancy
- Understanding Offsite: Design
- Understanding Offsite: Logistics
- Understanding Offsite: Site Management



Appendix: Navigating the Procurement Slide Deck

This slide deck has been developed in such a way that the trainer can navigate in a non-linear fashion. The trainer will display an agenda slide, from where individual topics can be explored by clicking on a 'Zoom Link'. Each zoom link is a thumbnail view of the slide at the start of the section. By clicking on the thumbnail, the presentation 'jumps' to the start of the section and, at the end of the section 'jumps back' automatically to the agenda slide you were originally on, from where the next topic can be accessed from another zoom link.

Part one – Offsite Fundamentals



Figure 1 Offsite Fundamentals Agenda Slide - Slide 9

As the slide deck is split into two parts: Offsite Fundamentals and Procurement Process, there are two agenda slides. Figure 1 shows the agenda slide for part 1 offsite fundamentals. To navigate from this slide to the contents of part one, the trainer should click with a mouse or trackpad on each of the thumbnails on this slide in sequence, to access the individual sections and exercises shown. At the end of each section, the presentation will return automatically to this slide, ready for the next topic to be presented.

Please note that when this slide is displayed, if the trainer uses any command that advances to the next slide – for example by 'clicking' with a remote control, or using 'right arrow' or 'enter' keys on the keyboard – the presentation will advance to part two – Procurement Process (figure 2). Therefore the trainer should ensure that when displaying the agenda slide, they only click into zoom links thumbnails with a mouse until each topic has been covered, after which the 'next slide' command will bring up part two agenda slide (figure 2).

Note that once the trainer has clicked a zoom link to display a particular section, they can use the conventional tools and commands to advance each slide within the individual sections.



Part two – Procurement Process

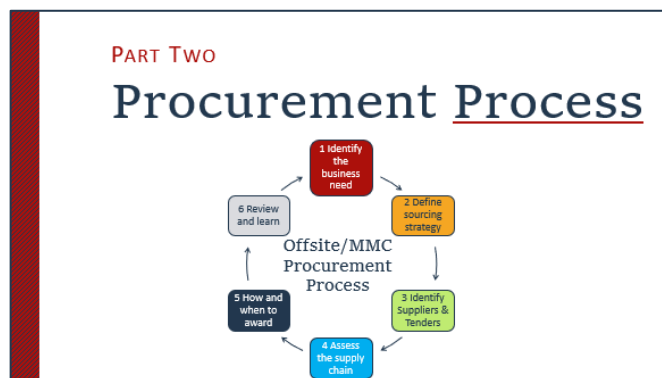


Figure 2 Part two - Procurement Process Agenda Slide - Slides 10-17

The start of the Procurement Process section is indicated by figure 2. This part of the presentation uses the same zoom link procedures as in part one, albeit there are several slides, each containing multiple zoom links. These are arranged around the Procurement Process flow diagram, as seen in figure 2, the position of which changes slightly as the slides advance.

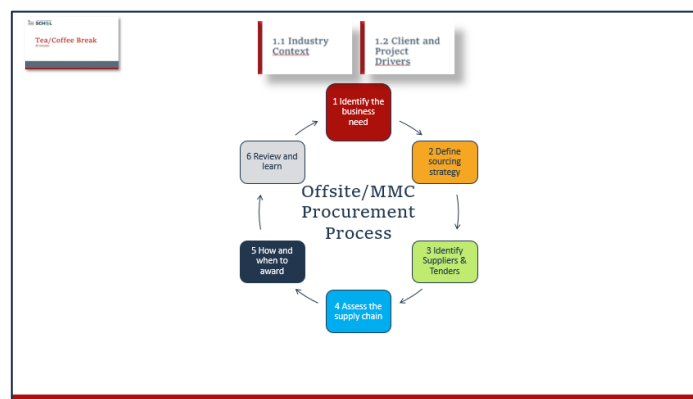


Figure 3 The process flow diagram 'morphs' to a bigger scale so that the trainer can introduce the 6 sections

As the slides advance, the process flow diagram 'morphs' and the zoom links are seen to move, so that different parts of the process can be enlarged as appropriate (figure 3). Figure 3 shows that the zoom link thumbnails have appeared, so the attendees can focus on the first two sections of the process diagram. The zoom link thumbnails which are relevant to this part of the process have appeared so that the trainer can click into each one in turn. When each of the zoom link thumbnails have been clicked and this section is complete, the trainer should advance to the next slide using a conventional next arrow – right arrow or mouse click anywhere on the screen. The trainer will then advance to the next section of the process flow diagram, shown in figure 4.



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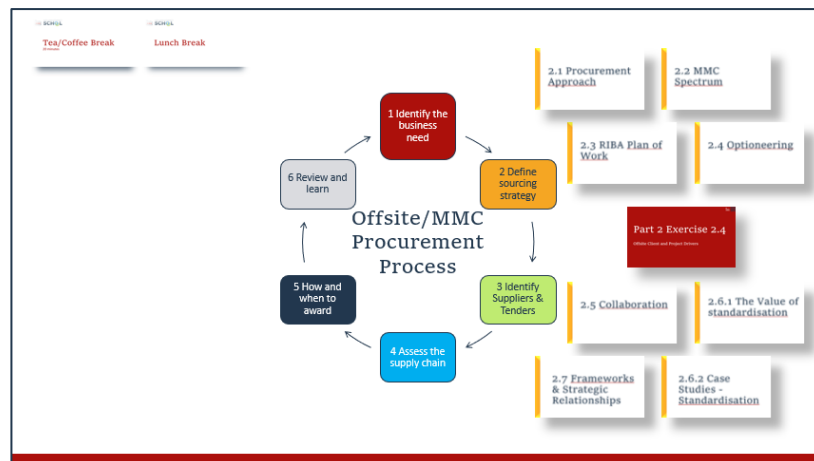


Figure 4 Section two of the procurement process diagram, demonstrating all of the zoom link thumbnails that are associated to this section

The same procedure should be followed throughout the rest of the process flow diagram – the trainer should follow each of the zoom link thumbnails, returning to the main agenda slide after each one. Note that depending on the time of day, the trainer can click through to a tea/coffee break or lunch break when convenient.

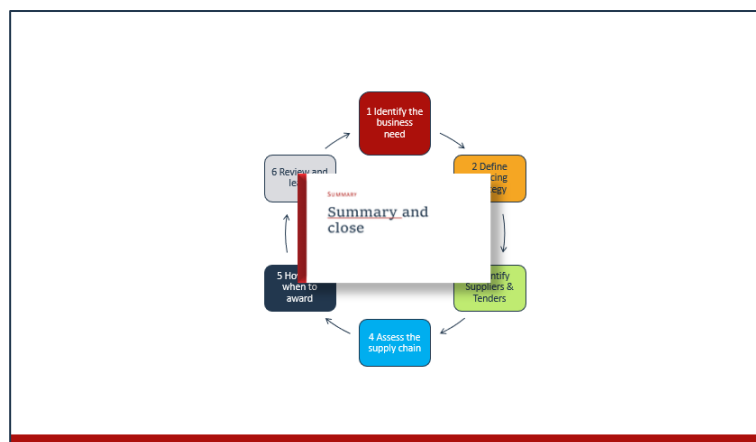


Figure 5 Final agenda slide with 'Summary and Close' zoom link thumbnail being the last section

After the trainer has completed section 6, the final agenda slide will appear, showing the 'Summary and close' zoom link thumbnail in the centre of the presentation (figure 5). Once clicking on this zoom link thumbnail, figure 6 shows the next slide. This slide comprises zoom link thumbnails to each section in the presentation. It is not intended that the trainer should use these links, rather it is intended as a good visual reminder to the audience of the topics that have been covered and the trainer should advance to the next slide. The trainer should use these shortcuts if needed to review or remind attendees about a particular section. Once reminding attendees of the particular section, the presentation will jump back



to this review slide (figure 6). Once advancing through the final slides of the presentation, the presentation will end.

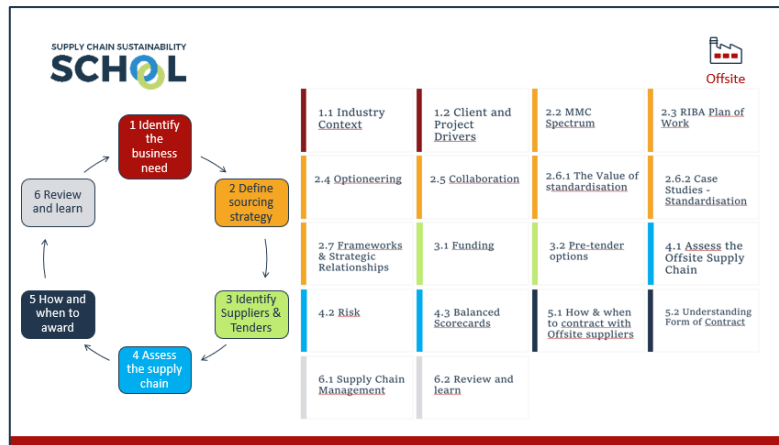


Figure 6 The first slide in the 'Summary and Close' section gives the trainer the opportunity to revisit any of the sections covered throughout the course