

# The Basics of Design for Manufacturing and Assembly (DfMA)



## E-LEARNING

100% online. May include pre-recorded session, live streaming/webinar and discussion forum, where applicable.

**DATE:** 30 Jun 2021

**DURATION:** 1 Day

**DELIVERY MODE:** e-Learning via live webinar and BCAA Learning Management System (LMS)

**FEES** (incl of GST):

**S\$350.00** (without WTU funding)

**S\$55.61\*** (with WTU funding support for eligible local participants. Limited funding places are available.)

\* For more information on the funding requirement, please refer to <http://www.bca.gov.sg/manpower/wtu.html>

## TARGET AUDIENCE

This course is targeted at any construction professionals who wish to gain a basic understanding of DfMA.

## AWARD

e-Certificate of Attendance (e-COA) will be awarded to participants who meet the attendance requirement.

## CPD POINTS

PEB: -

## INTRODUCTION

DfMA is a concept that has its roots in the manufacturing sector. In construction, DfMA is a process whereby buildings are designed for ease of off-site manufacturing and efficiency of on-site assembly. In this course, participants will gain essential concepts and principles of DfMA, design consideration for DfMA, its benefits and challenges as well as applications. Case studies will also be discussed.

## OBJECTIVES

Upon completion of this course, participants will be able to:

- Understand the basic concepts and principles of DfMA;
- Appreciate design consideration for DfMA; and
- Understand benefits and challenges of DfMA and how such challenges can be overcome for a successful adoption.

## CONTENTS

1. Overview of DfMA
  - BCA Construction Productivity Road Map
  - What is DfMA
  - Why DfMA
    - Benefits and challenges
  - DfMA concepts & principles
  - DfMA analysis and implementation
  - Market condition
    - demand, supply & perception
  - Off-site Continuum
    - single components, integrated components, full integration systems
  - Modularisation of MEP Services
    - BIP process
    - Cost & procurement management
      - On-site construction versus off-site manufacture
      - Economics of improved productivity
      - Early Contractor Involvement (ECI)
2. Design considerations and implementation of PPVC for Singapore context by Dragages
3. Singapore PPVC project case studies by Dragages
4. Design considerations and implementation of MET for Singapore context
5. MET project case studies by SteelTech

## LECTURERS

**DR LEONG CHEE LAI**, Senior Manager, Building and Construction Authority

Dr Leong Chee Lai graduated from Nanyang Technological University (NTU) with specialisation in structural engineering. Prior to joining BCA, he worked as an engineer in both construction and offshore marine industry, as well as a researcher in NTU.

**MS GLORIA HE**, Executive Manager, Building and Construction Authority

Ms Gloria He graduated from Nanyang Technological University (NTU) with Master of Power Engineering. Prior to joining BCA, she worked as an engineer in M&E specialist and consultancy firms. She has more than 10 years of experience in technical design and project management in commercial, institutional and industrial projects. She is a member of the BCA Mechanical Electrical and Plumbing (MEP) Taskforce working to encourage and support the adopting of prefabricated MEP systems.

**MR KHOR YEW CHAI**, Director (PPVC), Dragages Singapore Pte Ltd

Mr. Khor Yew Chai is a veteran who has more than 25 years of construction experience in Singapore. Currently, he is a Director (PPVC) at Dragages Singapore Pte Ltd. He holds a Bachelor of Engineering (Civil Engineering) from National University of Singapore in 1989, a Master of Science (International Construction Management) from Nanyang Technological University in 1997 and a Master of Science (Civil Engineering) from National University of Singapore in 2000.

**MR RICKESH LIMBACHIYA**, Technical Manager, Struts Building Technology Pte Ltd

Mr Rickesh Limbachiya graduated from University of Surrey with his Master of Engineering in Civil Engineering. He has many years of experience in technical design and managing complex infrastructure projects in India and United Kingdom. He currently is Technical Manager of Struts Building Technology Pte Ltd. He is also technical committee in the BCA MET guidebook.



## REGISTRATION

To register, please log into our Online StoreFront (OSF) at <https://eservices.bcaa.edu.sg/registration/#/> Login or scan QRcode and search for course code **79086**