

# Leonardo da Vinci project

**CLOEMC III** 

**Working Materials** 

Report of Participants feedback on the manuals conspectus

## I. Introduction

Scope of knowledge which will be included in manuals M14-M19 was created in two former LdV projects: LdV I titled "Development of new management studies and courses in the field of management in construction for engineers according to the requirements of the European Union" and LdV II titled "Model of professional qualification structure and new methods of promotion, certification and mutual recognition of managerial skills in construction industry according to the EU requirements". The scope should be verified by all partners of the project in order to set up common terminology and detailed description of content-related contents of NEW manuals. Method of work is based on questionnaires and "focus group" technique organized by all partners of the project. This is the reason why questionnaires and this report were made.

# II. Template of a questionnaire

PARTICI	PANT FEEDBACK FORM			
How interesting / useful are the topics for:				
anagers in construction industry	very interesting	interesting	not interesting	
her professionals in construction industry?	very interesting	interesting	not interesting	
2. Manual contents (attached):				
the content related aspect consistent throughout	the manual?		yes 🗌 no	
Is the importance of the subjects well chosen?				
Is the practicability of the subjects appropriate?				
the clarity and sequence of the material appropri	ate for participants		] yes □ no	
3. Relevant subjects I would like to know MORE	from the Manual:			
4. ANY OTHER COMMENTS? (give your name the project in future)	e and e-mail details if you v	wish to receive more	information abou	

## III. Tables of contents attached to each questionnaire

#### M14: DUE-DILIGENCE IN CONSTRUCTION INDUSTRY

#### TABLE OF CONTENTS

#### **CHAPTER 1**

## INFORMACJE PODSTAWOWE O PRZEDSIĘBIORSTWIE BUDOWLANYM (SPÓŁCE) BASIC INFORMATION ABOUT CONSTRUCTION COMPANY

#### Notarial deed, management board, supervisory board, balance sheet, company estimation methods.

Pierwotna i aktualna umowa Spółki, wykaz Partnerów, zarys historii Spółki, tożsamość dyrektorów i kierownictwa wyższego szczebla, prokurentów doradców, prawników i ekonomistów w celu porównania ich kwalifikacji i doświadczeń do wymogów wynikających z realizacji bieżących i przyszłych kontraktów budowlanych. Zmiany w ostatnich 3 latach, tożsamość członków rady nadzorczej, kwalifikacje i doświadczenia, ew. praca w innych RN, zmiany w kapitale zakładowym Spółki w ostatnich 3 latach. Analiza bilansów z ostatnich trzech lat wraz z opiniami biegłych rewidentów, rachunki zysków i strat, zobowiązania i należności, tabele porównawcze, współpraca z bankami, konkurencyjność ofert bankowych potrzeby kredytowe krótkoterminowe i długoterminowe, terminowość spłat zaciągniętych kredytów, kredyty przeterminowane , obciążenia wyników w okresie ostatnich trzech lat, płynność finansowa przedsiębiorstwa w okresie ostatnich trzech lat.

Metody wycena rynkowej wartości firmy.

#### **CHAPTER 2**

#### TYPY PRZEPROWADZANYCH KONTROLI

## Types of the company control organised by authorities,

Kontrole prowadzone przez Urząd Skarbowy, instytucje ubezpieczeniowe (ZUS), inspekcje ochrony środowiska, bezpieczeństwa i ochrony zdrowia, służb pożarniczych, urzędów kontroli pojazdów i urządzeń technicznych, ochrony środowiska, zalecenia pokontrolne, ich realizacja i koszty z tym związane.

#### **CHAPTER 3**

# BADANIE DZIAŁALNOŚCI PODSTAWOWEJ SPÓŁKI NA RYNKU KRAJOWYM I ZAGRANICZNYM

#### Research on the company activities on domestic and international markets

Wykaz najważniejszych budów aktualnie prowadzonych i ich planowana opłacalność; posiadany portfel zleceń na następny rok bądź dwa lata i ich planowana opłacalność, możliwości rozwoju. Stosowanie nowych technologii. Konkurencyjność wobec innych firm budowlanych, ocena udziału i rezultatów w przetargach. Liczba i wartość przetargów wygranych w porównaniu do złożonych ofert, opłacalność zawieranych konsorcjów, współpraca z podwykonawcami, lista solidnych podwykonawców, ocena współpracy z podwykonawcami, rodzaje robót zlecanych, koszty podwykonawstwa w porównaniu do sił własnych

#### **CHAPTER 3**

## BADANIE ZASOBÓW MATERIALNYCH PRZEDSIEBIORTSWA

#### Research on the material resources of the company

Wykaz nieruchomości, dokumenty inwentaryzacji gruntów i nieruchomości, posiadane produkcyjne środki trwałe, specjalistyczny sprzęt budowlany, środki transportu i inne, podatki naliczone, negocjowane i zapłacone od nieruchomości w ostatnich trzech latach.

#### **CHAPTER 4**

## BADANIE ZASOBÓW OSOBOWYCH PRZEDSIĘBIORSTWA

#### Research on the labor resources of the company

Struktura zatrudnienia, druk stosowanej standardowej umowy o pracę, regulaminy pracy, indywidualne karty pracy, obowiązki i uprawnienia pracownika, zasady wynagradzania

#### **CHAPTER 5**

#### WPŁYW OCHRONY ŚRODOWISKA NA DZIAŁALNOŚĆ FIRMY

## Company activities vs. Environmental protection

Czy były naliczane i płacone kary finansowe za korzystanie ze środowiska, jakie są łącznie ponoszone opłaty z tytułu korzystania ze środowiska, czy przedsiębiorstwo posiada certyfikaty ISO serii 14000. Czy zamierza pozyskiwać te certyfikaty w przyszłości,

#### **CHAPTER 6**

## UBEZPIECZENIA

Insurances

Konkurencyjne wybory ubezpieczycieli, zawarte umowy, okresy ubezpieczeń, czy są stosowane ubezpieczenia od wszystkich ryzyk budowy czy też stosowane są ubezpieczenia od zdarzeń nazwanych, koszty ubezpieczeń, terminy płatności, przyczyny zaistniałych szkód, procedury odszkodowawcze, kwoty i terminy wypłat odszkodowań, porównanie kosztów ubezpieczeń i wypłat z tytułu zaistniałych zdarzeń. opinia o efektywności stosowanych systemów ubezpieczeń.

CHAPTER 7
PODATKI
Taxation systems
CHAPTER 8
TENDENCJE RYNKOWE, PROGNOZY ROZWOJOWE PRZEDSIĘBIORSTWA
Prognoses for the company development

#### M15: PSYCHOLOGY AND MOTIVATION IN CONSTRUCTION INDUSTRY

#### TABLE OF CONTENTS

#### **CHAPTER 1**

PSYCHOLOGY OF ORGANIZATION AND WORK IN CONSTRUCTION INDUSTRY - BASIC PRINCIPLES

#### PODSTAWY PSYCHOLOGII I ORGANIZACJI PRACY W PRZEMYŚLE BUDOWLANYM

Organizational effectiveness, Employee – Work adjustment, Work Environment, Job attitudes Occupational personality, Team dynamics, Job satisfaction, Motivation and Engagement The role of leadership, Professional development, Organisational Citizenship Behaviors Counter-productive Work Behaviors, Stress at work, Work-life balance

#### **CHAPTER 2**

MOTIVATION THEORY

#### **TEORIA MOTYWACJI**

Scientific management, Social relations theory. Adams theory, Maslow theory ERG theory, McClelland theory, Vroom theory

#### **CHAPTER 3**

FINANCIAL MOTIVATION

#### **MOTYWACJA FINANSOWA**

Base pay, Bonuses & rewards, Benefits / perks, Profit and gain sharing, Long term incentives

#### **CHAPTER 4**

NON-FINANCIAL MOTIVATION

#### **MOTYWACJA NIE -FINANSOWA**

The role of management skills, Career paths and promotion, Goal setting, Feedback Recognition, Procedural and interactional justice

#### **CHAPTER 5**

LEADERSHIP IN CONSTRUCTION INDUSTRY

#### PRZYWÓDZTWO W PRZEMYŚLE BUDOWLANYM

Leaderhip styles, Management skills, Legitimate power, Reward power Coercive power, Expert power, Referet power, Proactive influence tactics (apprising, cosultation etc.)

#### **CHAPTER 6**

**TEAM DYNAMICS** 

#### ZARZĄDZANIE ZESPOŁAMI LUDZKIMI

Teamwork in construction, Efficient teams, Team Configuration, Facilitating teamwork Conflict Management

#### CHAPTER 7

PROFESSIONAL DEVELOPMENT IN CONSTRUCTION INDUSTRY

#### PODSTAWY ROZWOJU ZAWODOWEGO

Efficient training, Training evaluation, On-the-job training, Induction Coaching, Mentoring, Knowledge management and knowledge sharing

## **CHAPTER 8**

STRESS AT WORK IN CONSTRUCTION INDUSTRY

## ZARZĄDZANIE STRESEM W PRZEMYŚLE BUDOWLANYM

Sources of stress at work, The experience of stress, Cognitive-transactional theory of stress Coping with stress, Reactive coping, Anticipatory coping Preventive coping; Pro-active coping

#### CHAPTER 9

EMPLOYEE WELL-BEING AND WORK-LIFE BALANCE

## ŚRODOWISKO PRACY I ZASADA RÓWNOWAŻENIA PRACY I ODPOCZYNKU

Influence of employee well-being on performance, Work-life balance, Flexible working hours Sabbaticals, Compressed workweeks

#### **CHAPTER 10**

RESEARCH RESULTS AND / OR CASE STUDIES (OPTIONALLY)

#### STUDIA PRZYPADKU

## M16: PROFESSIONALISM AND ETHICS IN CONSTRUCTION

2nd draft, Author: Daniel Schmitz and CIOB

## TABLE OF CONTENTS

## 1 Introduction (DARM)

- 1.1 Preamble
- 1.2 Learning Outcomes
- 1.3 Investigation methodology

## 2 Ethic principles in Construction Industry (CIOB)

- 2.1 Ethics of professionals
- 2.2 Ethics of construction companies and Code of conduct
  - 2.2.1 Management guidelines
  - 2.2.2 Value Management
  - 2.2.3 Guidance to employees
  - 2.2.4 Environmental compatibility
- 2.3 Ethics of Construction Sites (**DARM**)

(Working conditions on construction sites, Health and Safety, Conflicts of culture on construction sites)

2.4 Compliance strategy of Construction Companies

## 3 Knowledge base, training and competences (CIOB)

(Macro-economical conditions, Principle characteristics of construction industry, Different types of occupational groups in construction industry, Quality demands on construction workers and engineers, General requirements, Sector-specific demands)

## 3.1. Vocational training systems (DARM)

- 3.1.1. University Education of engineers
- 3.1.2. Mixed ways of education

# 3.2. Vocational training system of the Partners Countries – PT, PL, BE, DE, UK (ALL)

- 3.2.1. University Education of engineers
- 3.2.2. Mixed ways of education

## 3.3. Comparison of the vocational training systems (DARM / CIOB)

## 4 Human Resources Management in Construction companies (DARM)

- 4.1 Basic Principles of Human Resources Management
- 4.2 Lifelong Learning in Construction industry
- 4.3 Professional Development in Construction companies
  - 4.3.1 Training paths
  - 4.3.2 Training methods

## 5. Multicultural issues in Construction (DARM / CIOB)

(LdV TTC experiences)

#### 6. Case Studies

#### M17: SUSTAINABILITY IN CONSTRUCTION

**2nd draft,** Authors: KHK / UMINHO (authors of chapters to be agreed)

## TABLE OF CONTENTS

#### INTRODUCTION

## **VOORWOORD**

Preamble, Learning outcomes, Investigation methodology

## **CHAPTER 1**

**HISTORY** 

#### **GESCHIEDENIS**

Before industrialization, our ancestors lived very durably and in harmony with nature, some living in cities but particularly on the countryside. With the rise of industry and later on with the society of consumption, the connection with nature was lost. This book aims to analyze some historical examples of sustainable construction and to examine how they can be implemented in today's contemporary society.

Comparison based on the four elements of 'sustainable building' from historical examples.

What can we learn from history?

## **CHAPTER 2**

MATERIAL USE

#### **MATERIAALGEBRUIK**

Our ancestors had no real insulation; even foils were not available. However, they used alternatives such as slates at the start of the wall.

## **CHAPTER 3**

**STRUCTURE** 

## **STRUCTUUR**

Flexible, demountable and lightweight constructions.

The wooden structure of timbered buildings is removable and can move along with the residents. It is also possible to be reused in other buildings.

## **CHAPTER 4**

**ORIENTATION** 

## **ORIENTATIE**

The buildings are mostly oriented toward the sun. A sunny south wall is key.

## **CHAPTER 5**

LAYOUT - USE

#### INDELING / GEBRUIK

Living rooms on the south - bedroom / storage room on the north

## **CHAPTER 6**

CASE STUDY

## **CASE STUDY**

One or more case studies (ALL)

#### M18: HEALTH AND SAFETY IN CONSTRUCTION

#### TABLE OF CONTENTS

CHAPTER 1.
GENERAL INTRODUCTION
WPROWADZENIE

#### **CHAPTER 2**

STANDARDS AND LEGAL REGULATIONS RELATED TO SAFETY AND HEALTH STANDARDY I REGULACJE PRAWNE W ZAKRESIE BIOZ

European directives, national legal regulations, Comparison between ISO 9001, ISO 14000 and OHSAS 18001

#### **CHAPTER 3**

DOCUMENTATION AND CERTIFICATION PROCEDURES FOR SAFETY AND HEALTH **PROCEDURY DOKUMENTACJI I CERTYFIKACJI W DZIEDZINIE BIOZ** OHSAS 18001, manuals, procedures.

## **CHAPTER 4**

HEALTH AND SAFETY FOR WORKS AND SERVICES IN CONSTRUCTION BEZPIECZEŃSTWO I ZDROWIE PODCZAS WYKONYWANIA PRAC I USŁUG BUDOWLANYCH

General principles of prevention, Involved agents, Duties of the client and project supervisor, Duties of coordinators, Employers' obligations, Workers' obligations, Self-employed person' obligations

## **CHAPTER 5**

SET OF CASE STUDIES

## STUDIA PRZYPADKU

(from Partners countries, accidents in construction examples)

## M19: MANAGING BUILDING PATHOLOGY & MAINTENANCE

## (alternatives title proposal:

## "Forensic Engineering in Construction"

٥r

"Building Defects and Deficiencies Management in Construction")

**2nd draft,** Authors: Malcolm Thomas, Trevor Mole and AEEBC

## TABLE OF CONTENTS

## Chapter 1

## INTRODUCTION +LEARNING OUTCOMES

## **Chapter 2** Importance of Building Maintenance

- Building Life Cycle & Maintenance Concepts
- Significance and Context
- Asset Management and Facilities
- Standards and Expectations
- Maintenance Systems

## **Chapter 3** Maintenance Technology

- Mechanisms of Decay, Failure and Deterioration
- Survey, Investigation and Diagnosis
- Repair Appraisal and Selection

## **Chapter 4** Planning & Financing

- The Planning Process
- Cost and Financial Management

## Chapter 5 Maintenance Information and the Role of IT

- Systems Requirements & Uses
- Standardisation & Data Sources
- Asset Management Systems

## Chapter 6 Conservation, Sustainability and Energy Efficiency

- Philosophy
- Improving Energy Efficiency
- Heritage Protection and Conservation

## **Chapter 7** Case Studies

## IV. Results

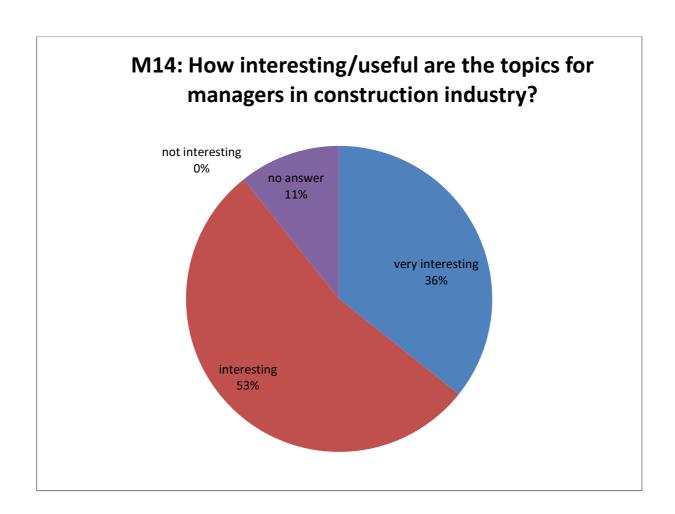
LDV CLOEMC III manuals conspectus questionnaire results

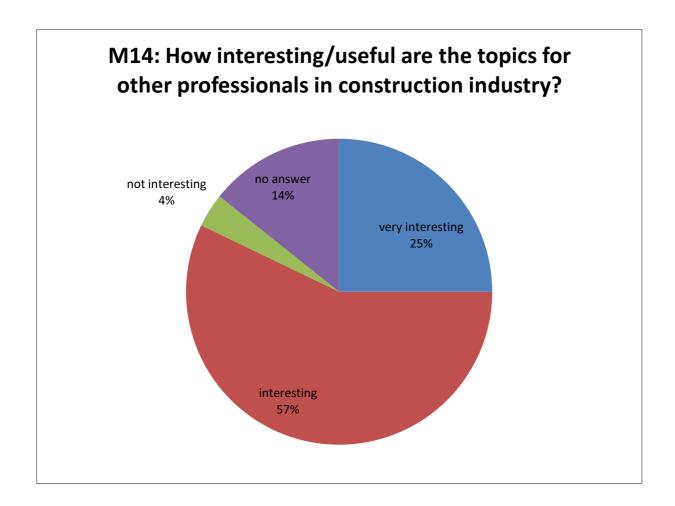
## Manual title M14: Due-Diligence in Construction Industry

## PARTICIPANT FEEDBACK (28 replies received)

1. How interesting / useful are the topics for:

managers in construction industry	very interesting	interesting	not interesting	N/A
- managers in construction industry	10	15	0	3
- other professionals in construction	very interesting	interesting	not interesting	N/A
industry?	7	16	1	4





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
27	1	0
yes	no	N/A
26	0	2
yes	no	N/A
27	1	0
yes	no	N/A
26	2	0

# 3. Relevant subjects I would like to know MORE from the Manual:

Subjects related to:

	replies
Chapter 1	1
Chapter 2	5
Chapter 3	8
Chapter 4	1
Chapter 5	3
Chapter 6	1
Chapter 7	2
Chapter 8	2
Chapter 9	1

## 4. Further comments:

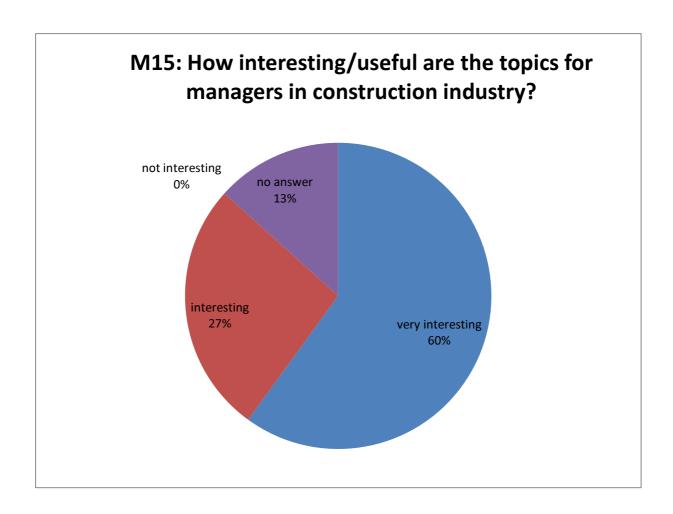
No comments.

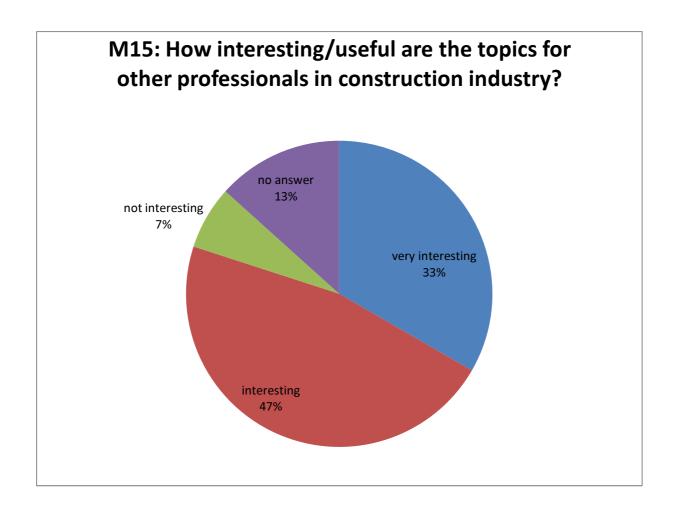
## Manual title M15: Psychology and Motivation in Construction Industry

## PARTICIPANT FEEDBACK (30 replies received)

1. How interesting / useful are the topics for:

managers in construction industry	very interesting	interesting	not interesting	N/A
- managers in construction industry	18	8	0	4
- other professionals in construction	very interesting	interesting	not interesting	N/A
industry?	10	14	2	4





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
28	1	1
yes	no	N/A
29	0	1
yes	no	N/A
27	3	0
yes	no	N/A
26	2	2

- 3. Relevant subjects I would like to know MORE from the Manual:
  - what is the actual situation? how often do we find the possibilities in practice?
  - corporate strategy (stress management)
  - work-life balance
  - leadership

- team dynamics effects on motivation
- future perspective and new approaches
- country comparisons
- intercultural teamwork (2 replies)
- best practice and tendencies
- motivation theories (2 replies)
- stress especially ergonomics & physical stress
- leadership styles & management skills (2 replies)
- conflict management
- proactive influence tactics
- project organization
- area of conflict between planning and execution
- roles & responsibilities (in a team)
- concerns of construction companies/ communication
- subjects related to:

	replies
Chapter 1	1
Chapter 2	3
Chapter 3	1
Chapter 4	3
Chapter 5	4
Chapter 6	6
Chapter 7	1
Chapter 8	5
Chapter 9	3
Chapter 10	2

## 4. Further comments:

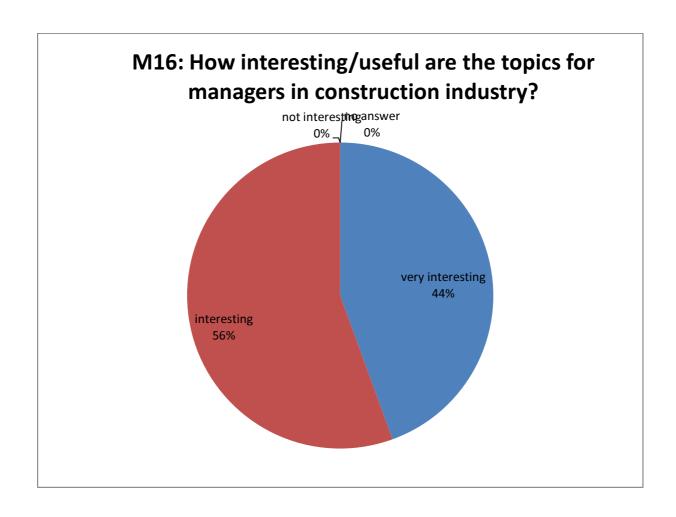
- please define "construction industry" further
- chapters 5 & 6: differentiate between construction site and office; link with construction industry
- leadership: site manager <--> executive / management board
- one enthusiastic comment with congratulations

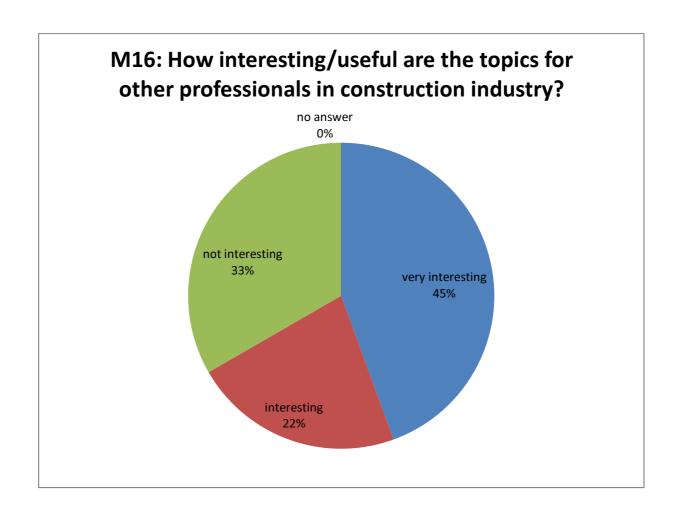
## Manual title M16: Ethics and Professionalism in Construction

## PARTICIPANT FEEDBACK (9 replies received)

1. How interesting / useful are the topics for

	very interesting	interesting	not interesting	N/A
- managers in construction industry	4	5	0	0
- other professionals in construction industry?	very interesting	interesting	not interesting	N/A
industry:	4	2	3	0





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
9	0	0
yes	no	N/A
9	0	0
yes	no	N/A
7	1	1
yes	no	N/A
8	0	1

## 3a. Relevance of all subjects raised in the Manual:

- Ethics on Construction Site → important for the quality of the execution (installation of reinforcement steel grid e.g.)
- very relevant, especially for managers
- combination of human resources + knowledge is a relevant topic
- the topics are relevant
- important because the construction industry needs new innovations and have a major potential for development
- especially relevant: Stakeholder Management, Lifelong Learning, Professional Development,
   Competences in Construction Industry, multi-cultural issues
- very interesting for HR department, interesting for managers
- relevant for research and development
- very important: knowledge, qualification, competences and teamwork are leading to a positive project result

## 3b. Relevant subjects I would like to know MORE from the Manual:

- Stakeholder Management, Lifelong Learning and Talent Management, Encouragement of interdisciplinary work
- Ethics in Construction
- Future prospects, Recommendations, criticism of capitalism
- Professional Development, demands on qualification on construction engineers, multicultural issues
- Human Resources Management in Construction, Multi-cultural issues in Construction
- Qualification of subcontractors, training vs. monotony, development of technology and training of construction worker
- Ethics of construction companies, ethics on construction sites, Lifelong Learning in construction industry
- Lifelong Learning for European construction managers

#### 4. Further comments:

- integration of social aspects and quality management
- Construction site as business in business
- Interaction between client, developer, construction development engineer and construction site manager

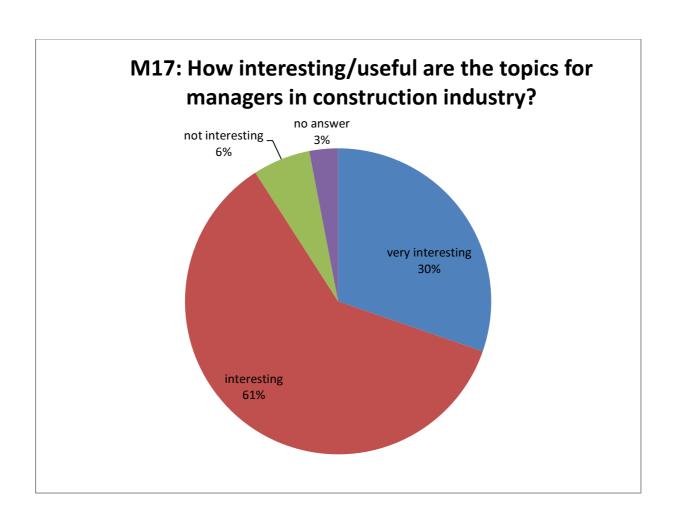
## Manual title M17: Sustainability in Construction

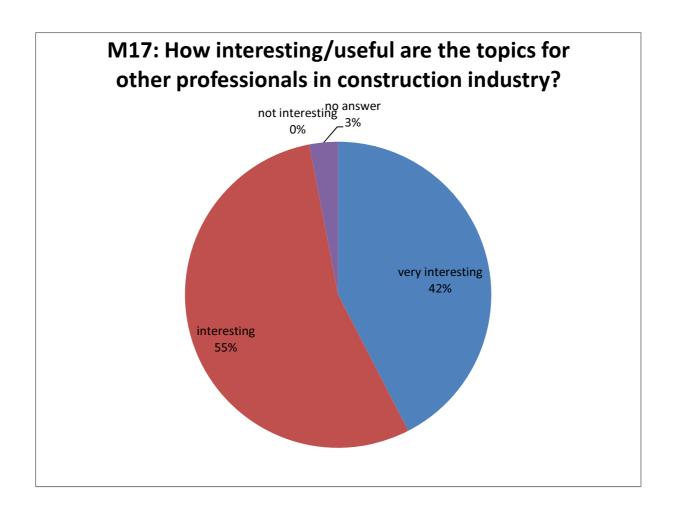
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## PARTICIPANT FEEDBACK (33 replies received)

1. How interesting / useful are the topics for:

	very interesting	interesting	not interesting	N/A
- managers in construction industry	10	20	2	1
- other professionals in construction	very interesting	interesting	not interesting	N/A
industry?	14	18	0	1





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
33	0	0
yes	no	N/A
33	0	0
yes	no	N/A
28	1	4
yes	no	N/A
28	1	4

- 3. Relevant subjects I would like to know MORE from the Manual:
  - Sustainable restauration
  - Material use, cradle-to-cradle, benefits of precast structures
  - Energy consumption: electricity, water, heating

- There has to be a chapter about energy and wateruse
- subjects related to:

	replies
Chapter 1	1
Chapter 2	3
Chapter 3	2
Chapter 4	5
Chapter 5	3
Chapter 6	2

## 4. Further comments

No comments.

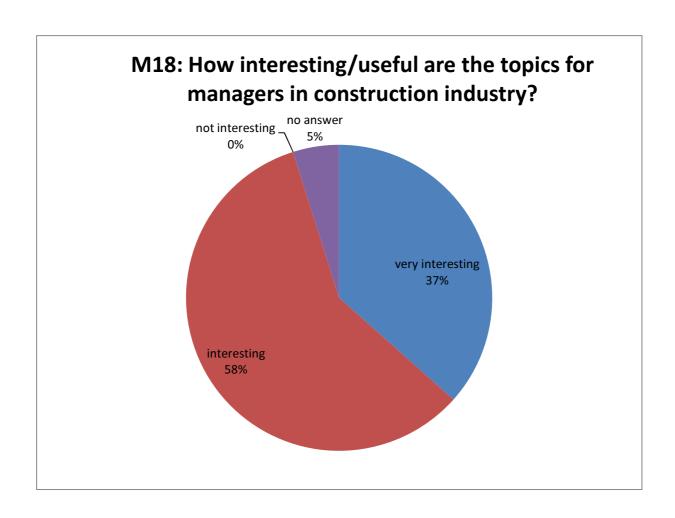
## Manual title M18: Health and Safety in Construction

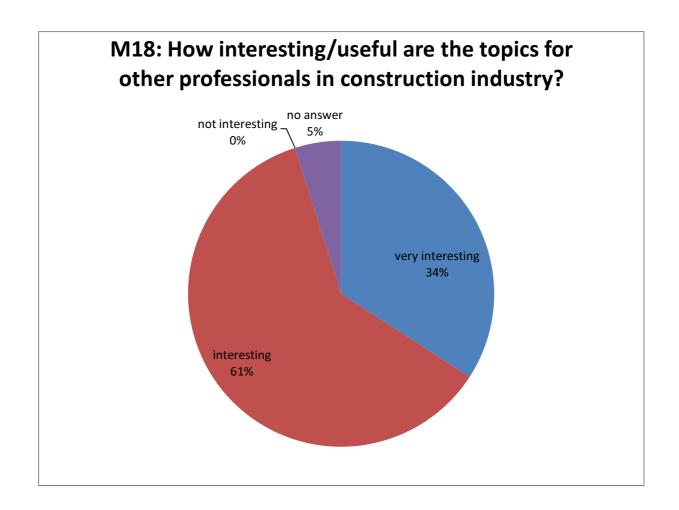
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## PARTICIPANT FEEDBACK (41 replies received)

1. How interesting / useful are the topics for:

- managers in construction industry	very interesting	interesting	not interesting	N/A
	15	24	0	2
- other professionals in construction	very interesting	interesting	not interesting	N/A
industry?	14	25	0	2





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
41	0	0
yes	no	N/A
41	0	0
yes	no	N/A
38	1	2
yes	no	N/A
36	3	2

## 3. Relevant subjects I would like to know MORE from the Manual:

## Subjects related to:

	replies
Chapter 1	0
Chapter 2	5
Chapter 3	5
Chapter 4	13
Chapter 5	10

## 4. Further comments

Lack of chapters description.

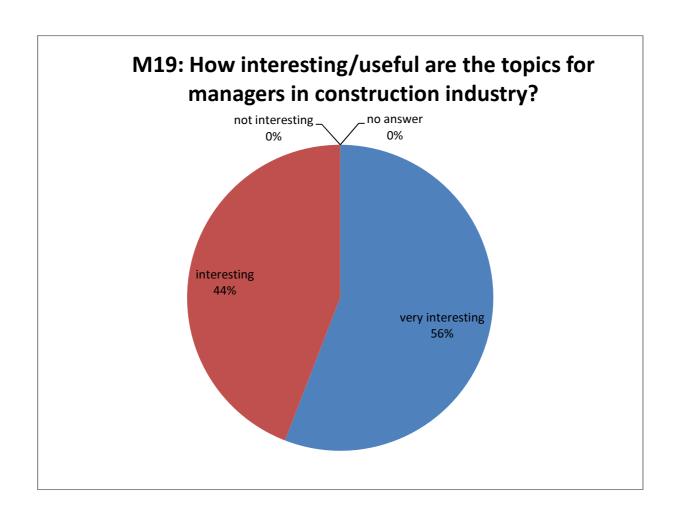
## Manual title M19: Pathology in Construction

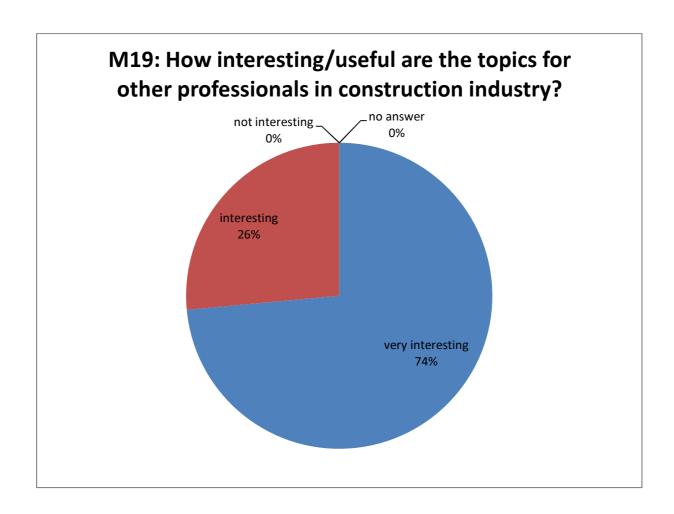
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## PARTICIPANT FEEDBACK (34 replies received)

1. How interesting / useful are the topics for:

- managers in construction industry	very interesting	interesting	not interesting	N/A
	19	15	0	0
- other professionals in construction	very interesting	interesting	not interesting	N/A
industry?	25	9	0	0





Is the content related aspect consistent throughout the manual?

Is the importance of the subjects well chosen?

Is the practicability of the subjects appropriate?

Is the clarity and sequence of the material appropriate for participants?

yes	no	N/A
26	0	0
yes	no	N/A
26	0	0
yes	no	N/A
26	0	0
yes	no	N/A
26	0	0

## 3. Relevant subjects I would like to know MORE from the Manual:

- The subject matter was considered to be very relevant to the majority of construction managers, but especially so for Building Surveyors /Construction Experts.
- All subjects very relevant to the topic
- All subjects are relevant. European dimension difficult but important
- Who is best placed to undertake the Building Pathology and Professionalism
- BIM + Impact

## 4. Further comments

The following areas were identified for inclusion in the Manual

- (1) Use of innovative technologies in Building Maintenance and Pathology including Building Information Modeling (BIM)
- (2) Safety Health & Welfare in Maintenance & Pathology
- (3) Management and aftercare of Buildings.

It was acknowledged that these aspects would be addressed in the courseware.

## Others:

- Title is perfect!
- As a alternative to the title: "Building Pathology and Maintenance Management"
- Very interesting approach to pathology in construction
- Case studies will be very important give examples of how things work In the real world

## V. Conclusions

Generally, the topics of all manuals have been rated as "interested" and "very interested" for managers and other professionals in construction industry.

Based on the evaluation of the manual contents, each manual can be described by the following statements:

- the content related aspect is consistent throughout the manual
- the importance of the subjects is well chosen
- the practicability of the subjects is appropriate
- the clarity and sequence of the material is appropriate for participants.

Suggestions and comments mentioned in the questionnaires will be used for creating final version of the manual contents.