



UNIVERSITAT  
POLITÈCNICA  
DE VALÈNCIA

ESCUELA TÉCNICA SUPERIOR  
DE INGENIEROS DE CAMINOS,  
CANALES Y PUERTOS



# APPENDIX 1. BENCHMARKING THE CONSTRUCTION TRADE PRODUCTIVITY

**Study on improving labor productivity in the construction industry.  
The cases of Europe and Hong Kong.**

*Titulación:* Grado en Ingeniería Civil

*Curso:* 2015/16

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*Valencia, junio de 2016*

## **Benchmarking the Construction Trade Productivity**

### **QUESTIONNAIRE SURVEY**

#### **Aim of the Questionnaire Survey**

This questionnaire survey is part of the study entitled “Benchmarking the Construction Trade Productivity”. This survey aims to identify the critical construction trades respectively for building projects and infrastructure projects. We would like to seek your expert opinion regarding the criticality and the current level of automation of these construction trades. This questionnaire takes about 15 minutes to complete.

#### **Completion and Return of the Questionnaire**

This questionnaire takes about 15 minutes to complete. **Please circle or highlight your rating in color.** We would be grateful if you could kindly return the completed questionnaire by email to [zhangxq@ust.hk](mailto:zhangxq@ust.hk), or by post using the self-addressed envelope provided.

#### **Confidentiality**

All responses will be treated in the strictest confidentiality. If you have any questions about this survey, please feel free to contact Prof Xueqing (Eric) Zhang (email: [zhangxq@ust.hk](mailto:zhangxq@ust.hk); Tel: 2358 8480; Fax: 2358 1534), Department of Civil and Environmental Engineering, The Hong Kong University of Science and Technology, Clear Water Bay, Kowloon, Hong Kong.

## Section A – Background of Respondents

Name (optional) \_\_\_\_\_

Organization (optional)

Email Address (optional) \_\_\_\_\_

Job / Position

Primary Area of Practice

Developers and clients

Professional advisors

Universities and professional bodies

Estate and facilities managers

Manufacturers and suppliers

Others \_\_\_\_\_

Contractors

Government and its departments and agencies

### Experience (Years)

0-5       6-9       10-19       20 and above

### Education Level

Dr.       Master       Bachelor       High School

## Section B – Rating the Criticality of Construction Trades

For building projects (e.g., public housing, private residential and office building projects) and infrastructure projects (e.g., railway and highway projects, bridges and tunnels), please:

1. Rate the relative criticality of each construction trade (“1” – Not Critical, “2” – Fairly Critical, “3” – Critical, “4” – Very Critical, “5” – Extremely Critical) in terms of: (1) percentage of the trade labor cost as of the total project labor cost, (2) impact of the trade on the project construction time, and (3) shortage of trade labor supply;
2. Rate the current level of automation of each construction trade (“1” – Very Low, “2” – Low, “3” – Normal, “4” – High, “5” – Very High).

Note: A construction trade is considered more critical if it takes a higher percentage of the total project labor cost, has more impact on the project construction time, and/or encounters a bigger shortage of trade labor supply.



Study on Improving Labor Productivity in the Construction Industry. The cases of Europe and Hong Kong.

Trade		Building				Infrastructure			
		Labor Cost	Construction Time	Labor Shortage	Automation Level	Labor Cost	Construction Time	Labor Shortage	Automation Level
31	Lift and Escalator Mechanic	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
32	Refrigeration / Air-conditioning / Ventilation Mechanic	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
33	Fire Service Mechanic	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
34	Gas Installer	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
35	Electrician	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
36	Electronic Equipment Mechanic	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
37	Plant and Equipment Mechanic	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

Would you wish to attend a follow-up interview (over the telephone or in person)?

Yes (please provide your email or phone number) \_\_\_\_\_  No

**- END OF THE QUESTIONNAIRE -**

**Thank you very much for your help and support!**

