

# PRELIMINARY RESULTS OF SURVEY FROM MAKING 4.0 PROJECT – THE MALAYSIAN PERSPECTIVE (WP1)

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# **HIGHER EDUCATION IN MALAYSIA**

# HIGHER EDUCATION (HE)

- 100 % (125 responses)
- 15 institutions involved

| NO. | UNIVERSITY                             | No. of Responses |
|-----|--|------------------|
| 1.  | UNIVERSITI PUTRA MALAYSIA (UPM)        | 14               |
| 2.  | UNIVERSITI SAINS MALAYSIA (USM)        | 23               |
| 3.  | UNIVERSITI TEKNOLOGI MARA (UiTM)       | 7                |
| 4.  | UNIVERSITI KEBANGSAAN MALAYSIA (UKM)   | 37               |
| 5.  | POLITEKNIK                             | 23               |
| 6.  | UNIVERSITI KELANTAN MALAYSIA (UMK)     | 8                |
| 7.  | UNIVERSITI TUN HUSSIN ONN (UTHM)       | 1                |
| 8.  | UNIVERSITI MALAYSIA TERENGGANU (UMT)   | 1                |
| 9.  | UNIVERSITI MALAYSIA SARAWAK (UNIMAS)   | 2                |
| 10. | UNIVERSITI MALAYSIA SABAH (UMS)        | 2                |
| 11. | UNIVERSITI SELANGOR (UNISEL)           | 1                |
| 12. | UNIVERSITI TEKNOLOGI MALAYSIA (UTM)    | 2                |
| 13. | UNIVERSITI KUALA LUMPUR (UniKL)        | 1                |
| 14. | UCTS                                   | 2                |
| 15. | UNIVERSITI SAINS ISLAM MALAYSIA (USIM) | 1                |

# Program Specialization

| Summary program         | Program          | No. of responses |
|-------------------------|------------------|------------------|
| MATERIAL AND PROCESSING | Forestry         | 117              |
|                         | Wood Science     |                  |
|                         | Furniture        |                  |
|                         | Wood Engineering |                  |
|                         | Architecture     |                  |
|                         | Material         |                  |
|                         | Management       |                  |
| BASIC SCIENCE           | Science          | 5                |
|                         | Environment      |                  |
| OTHERS                  | Multimedia       | 3                |
|                         | Education        |                  |

# Responses by KET in which familiar

| Industry 4.0 technologies            | KET                            | Who knows |
|--------------------------------------|--------------------------------|-----------|
| Digital and physic world hybridising | Virtual Reality                | 1.79%     |
|                                      | Augmented Reality              | 1.79%     |
|                                      | 3D Printing                    | 8.93%     |
|                                      | 3D Scanner                     | 3.57%     |
|                                      | CNC                            | 32.14%    |
|                                      | Robotics                       | 23.21%    |
|                                      | Automatic Sprayer              | 8.93%     |
|                                      | Computer-Aided-Design (CAM)    | 3.57%     |
|                                      | Autocad                        | 5.36%     |
|                                      | Surface Mount Technology       | 1.79%     |
| Telecommunication and data           | Big data                       | 1.79%     |
|                                      | ICT                            | 1.79%     |
|                                      | Cloud Computing                | 1.79%     |
| Management Systems                   | Glue Laminated Timber          | 1.79%     |
|                                      | Components of vehicle/airplane | 7.14%     |
|                                      | Paper Coating Technology       | 1.79%     |
|                                      | Manufacturing automotive       | 8.93%     |

**INDUSTRY**

# INDUSTRY INVOLVED

## 65 COMPANIES:

- Malaysia (83%)
- Indonesia (4%)
- Vietnam (5%)
- Taiwan (5%)
- Thailand (3%)

## SIZE COMPANIES:

22 companies:

- Medium (50-249)

43 companies:

- Large (> 250)

## MARKET:

- Export (63%)
- Domestic & Export (37%)



# Reasons for application of I4.0 to wood and furniture manufacture industry

- Improve productivity
- Reduce cost
- Improve industry in general
- Improved quality
- Reduce workforce

# Reasons for application of I4.0 to wood and furniture manufacture industry

- Industry is not ready yet
- Industry very sensitive to cost
- Hard labor of adoption
- Adoption too expensive (technology)
- Don't feel it is needed for now

# SUMMARY HE & INDUSTRY

- HE analysis
  - material and processing technologies are most interested in Industry 4.0 in wood industry.
- Industry analysis
  - The main reason given was the adoption of the technology to expensive.
  - The concern on the industry is not ready yet to accept Industry 4.0.