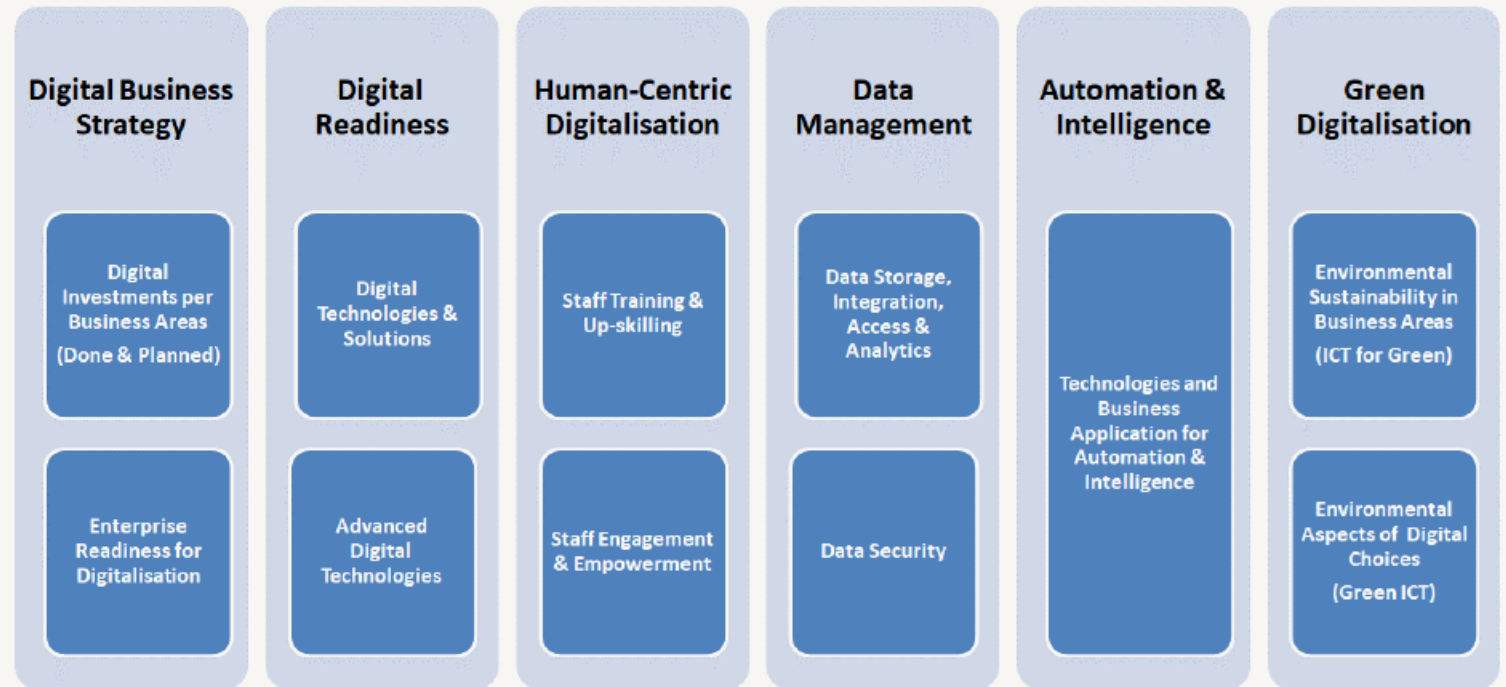# Unveiling Firm Digitalisation Patterns through the EDIH Digital Maturity Assessment Tool (DMAT)

Johan Stake

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*Unit for Digital Economy*

EDIH | European Digital Innovation Hubs Network

European Commission

# DMAT and its objectives

- Evaluate the performance of the hub

- Monitor the increase in digital maturity of the organisations that have used the services of the network



| Digital Business Strategy | Digital Readiness | Human-Centric Digitalisation | Data Management | Automation & Intelligence | Green Digitalisation |
|---|---|---|---|---|---|
| Digital Investments per Business Areas (Done & Planned) | Digital Technologies & Solutions | Staff Training & Up-skilling | Data Storage, Integration, Access & Analytics | Technologies and Business Application for Automation & Intelligence | Environmental Sustainability in Business Areas (ICT for Green) |
| Enterprise Readiness for Digitalisation | Advanced Digital Technologies | Staff Engagement & Empowerment | Data Security | | Environmental Aspects of Digital Choices (Green ICT) |

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# DMAT SME Assessments over time

Good news

- 12th of November – 10 000 assessments reached!

- 600-800 assessments per month

Bad news

- 244 assessments for t1

- 1,400 assessments made over 1 year ago missing follow-up

- Quality of data (My favourite SME, VAT codes missing/wrong)



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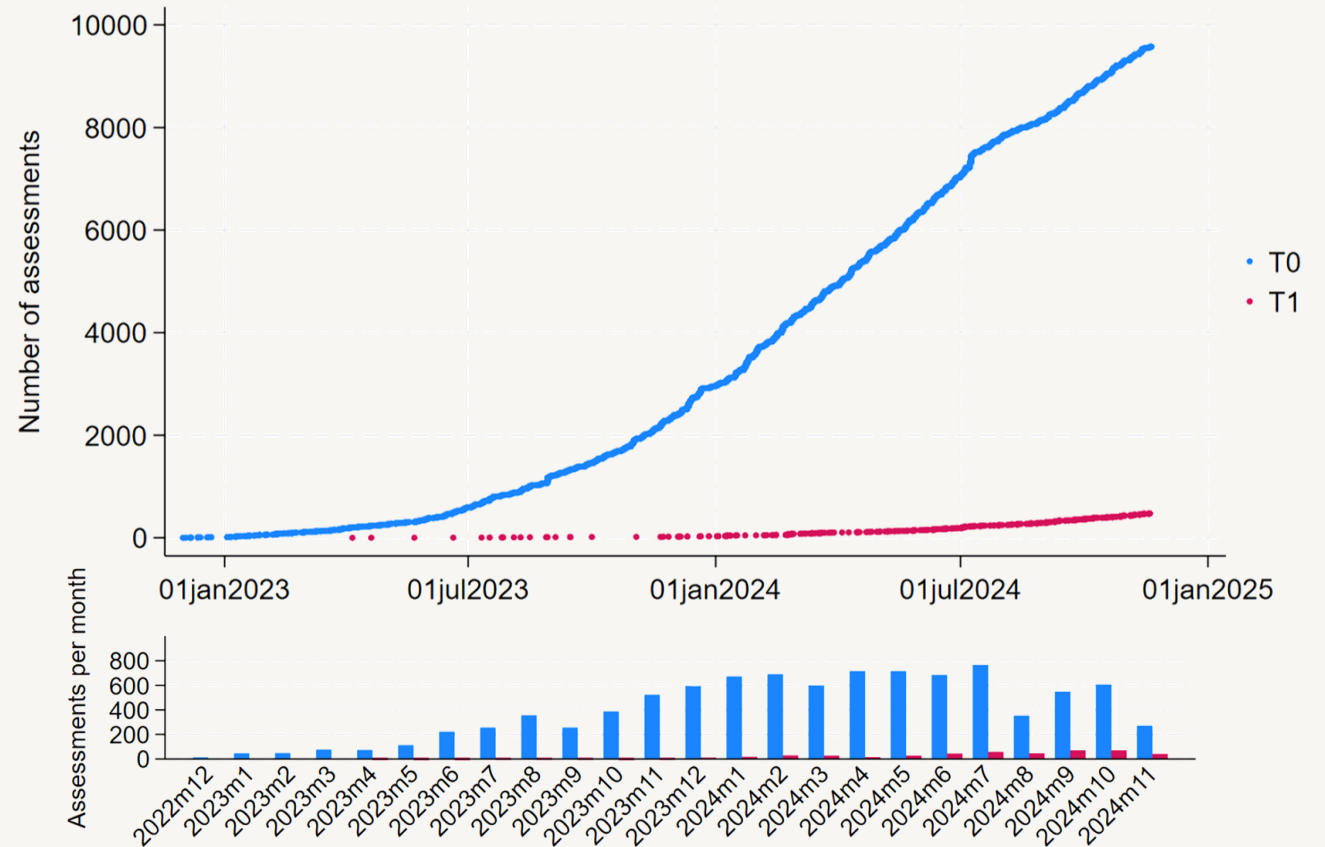
# Digital maturity of EDIH clients at T0

| Average total DMAT score | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| **40** | | | | | | | | | | | |
| Digital Business Strategy | | Digital readiness | | Human-Centric Digitalisation | | Data Management | | AI & Automation | | Green Digitalisation | |
| **47** | | **34** | | **50** | | **49** | | **19** | | **38** | |
| Investments | Prepared-ness | Basic technologies | Advanced technologies | Skills | Engagement | Data management | Data Security | | | Green through ICT | ICT impact |
| **43** | **55** | **50** | **18** | **46** | **54** | **48** | **48** | | | **38** | **38** |

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# DMAT score in T0 by country

DMAT scores between 30 to 50 for the majority of countries

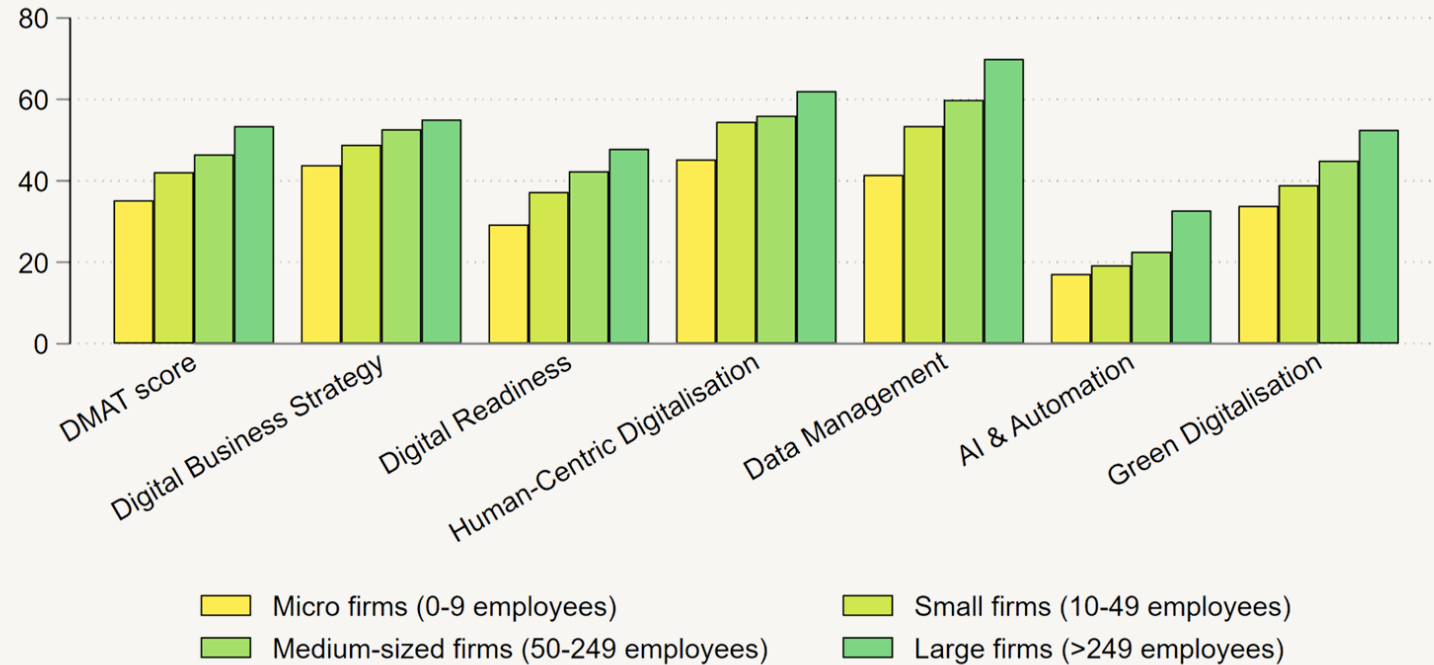Large variation in the number of assessments

- Latvia, Spain and Lithuania more than 600 assessments
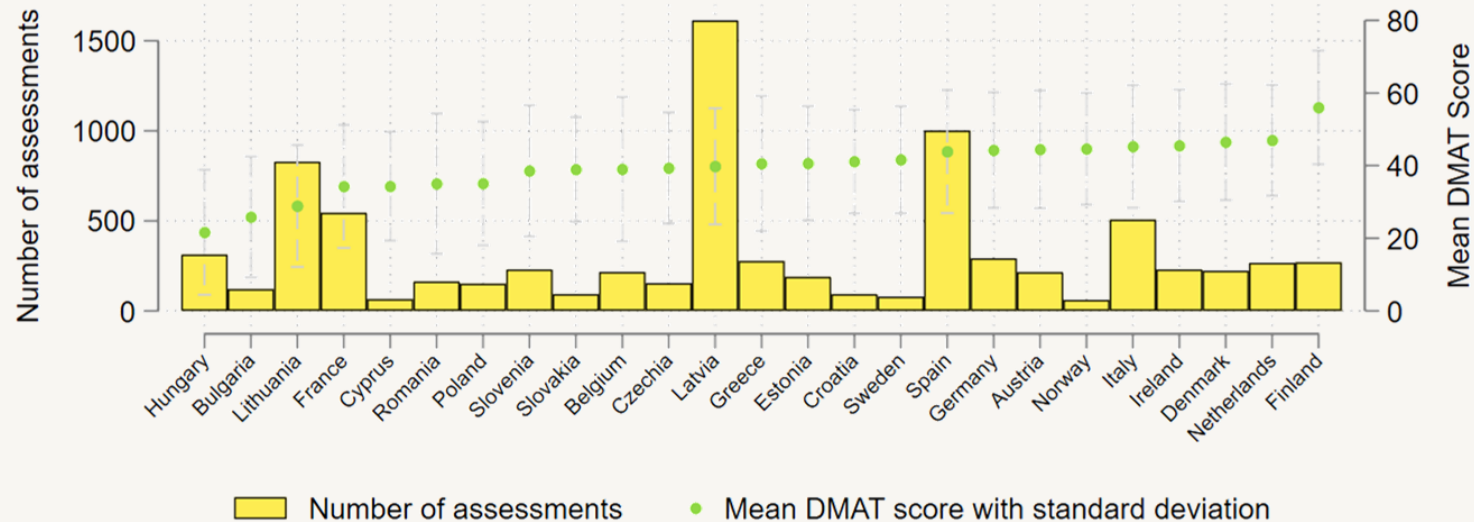
# DMAT score in T0 by firm size

DMAT score increases with size

- Larger firms higher score than smaller firms

- This holds for all dimensions

- AI & Automation exhibits the largest difference between Large firms and SMEs

Legend:
- Micro firms (0-9 employees)
- Small firms (10-49 employees)
- Medium-sized firms (50-249 employees)
- Large firms (>249 employees)

Chart categories: DMAT score, Digital Business Strategy, Digital Readiness, Human-Centric Digitalisation, Data Management, AI & Automation, Green Digitalisation

# DMAT score and number of DMATs by sector

DMAT score and number of assessments increases with more digital intensive sectors

Most assessments are in the sectors:

- Manufacturing

- Professional, scientific and technical

- Wholesale and retail trade

- Information and communication
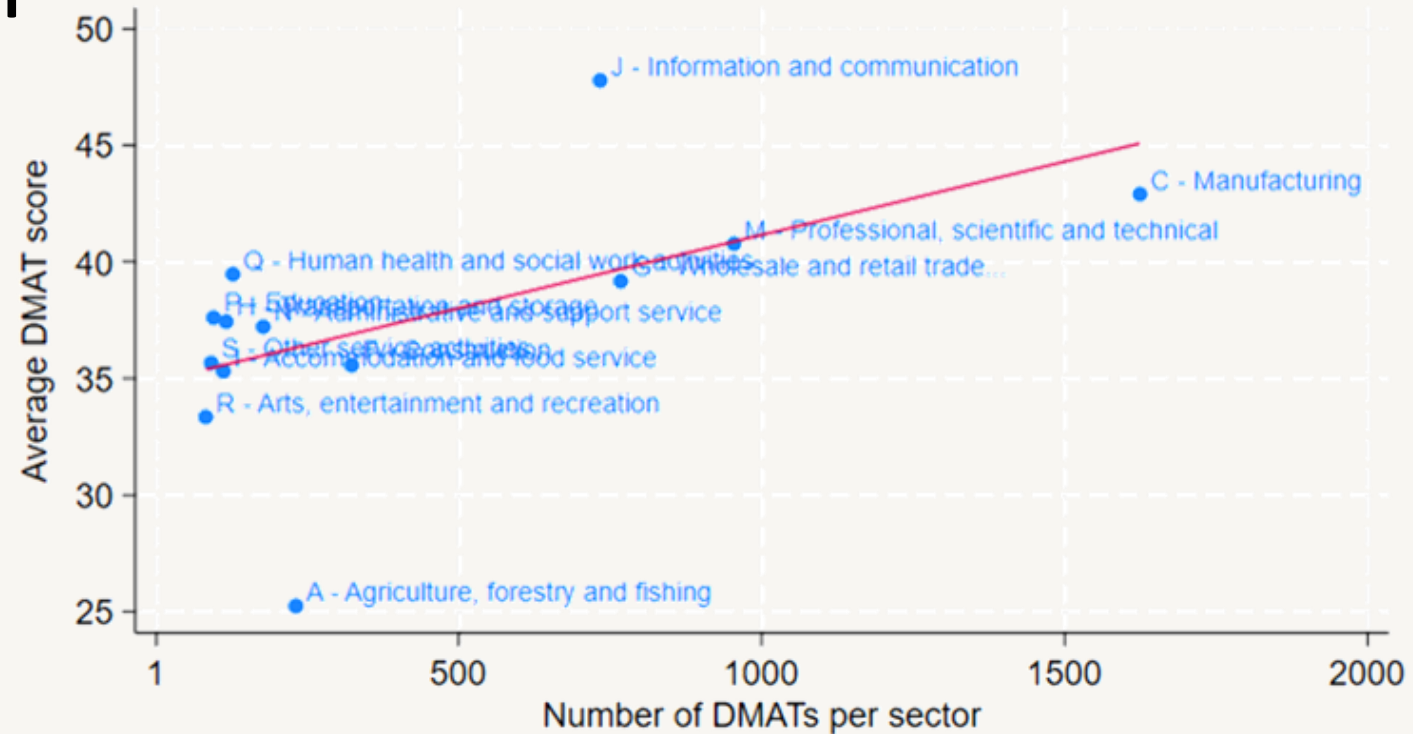
*only includes sectors with >60 assessments



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# Dimension development over T0 firms

For firms of DMAT level Basic

- Relatively more contribution from Strategy

- Firms plan to invest in digitalisation

Firms that receive Average level or more

- Human-Centric and Data Management increased contribution

Development in AI & Automation increases after for Moderately advanced

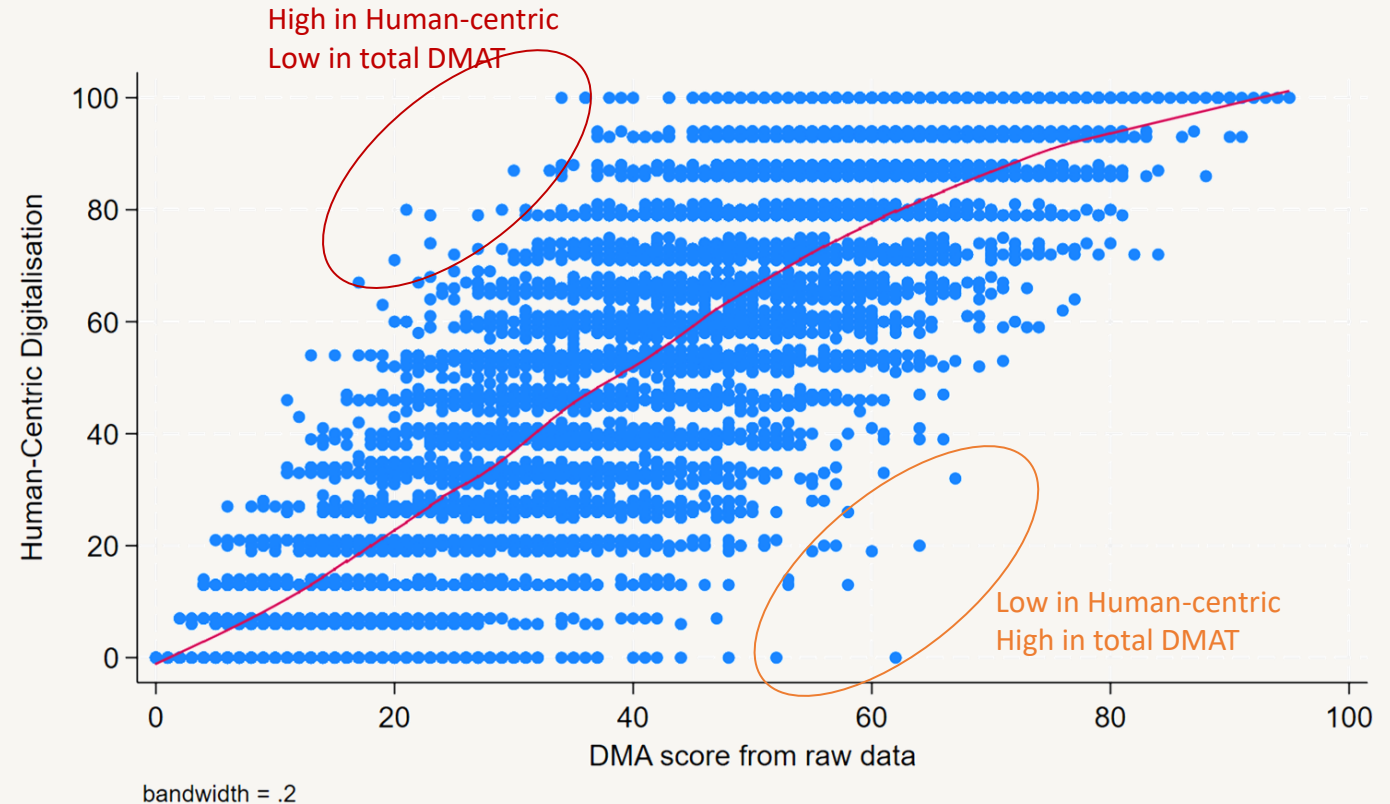Green digitalisation seemingly constant development
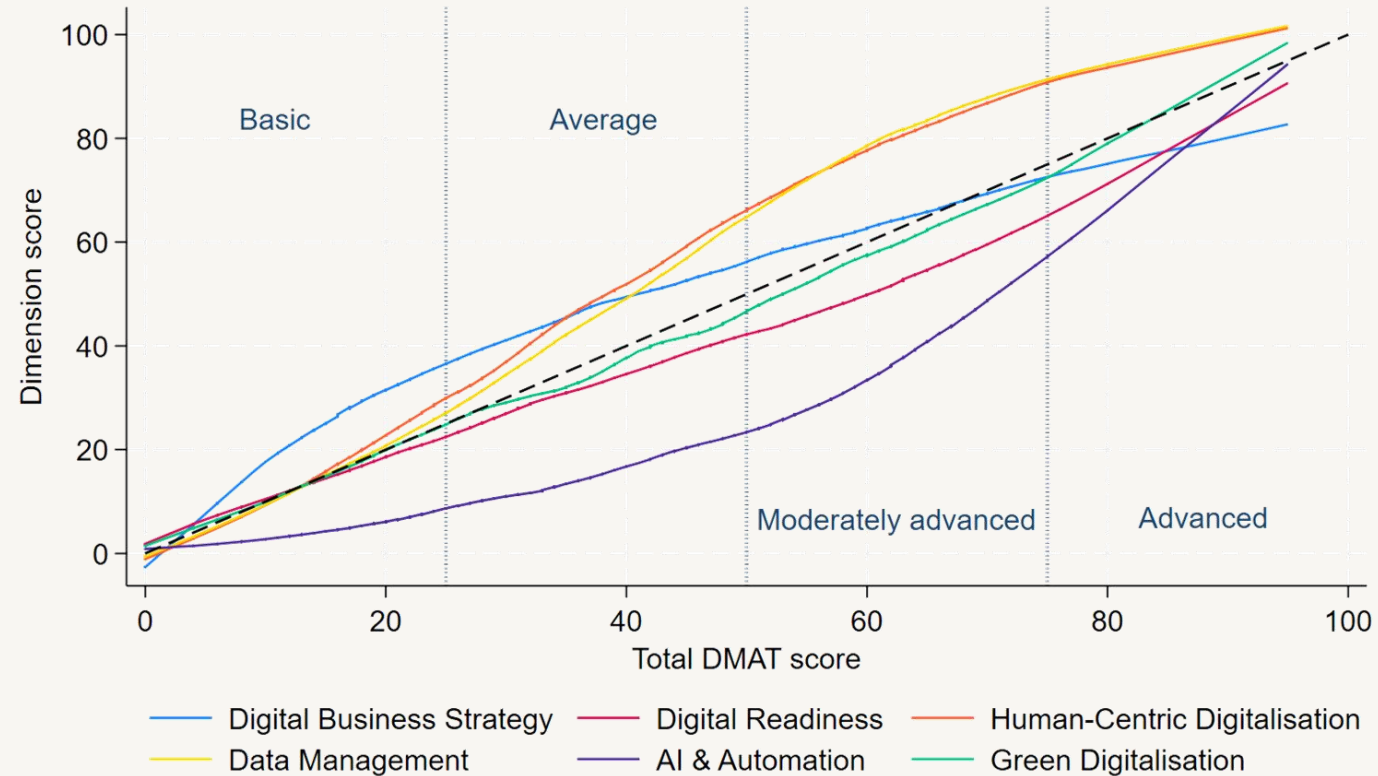
# Spread of assessments

## Example using Human-Centric digitalisation

Large variations from estimated average scores

- Firms with low DMAT score but high score in Human-centric

- Also firms with high DMAT score and low Human-centric score

**There is a lot of variation in how firms digitalise and what digitalisation path they take**



High in Human-centric
Low in total DMAT

Low in Human-centric
High in total DMAT

Human-Centric Digitalisation

DMA score from raw data

bandwidth = .2

# DMAT score development from T0 to T1
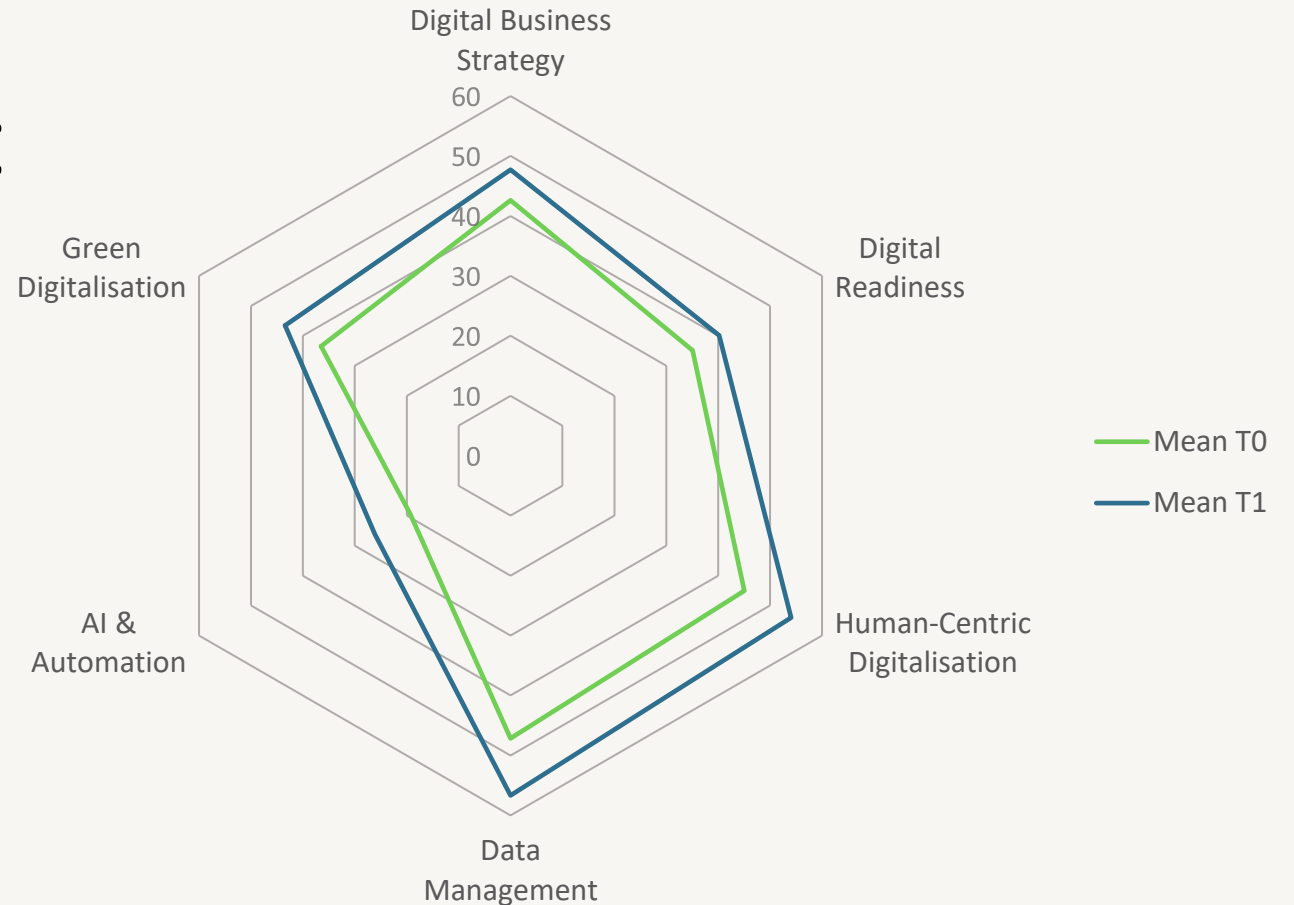
## Scores increase in all dimensions

Average total score increases from 37 to 44

All dimensions increase 5-10 points

Largest percentage increase, 35%, in AI & Automation

All subdimensions also increase, between 2 to 7 points

-    Data security       22%

-    Digital for Green    22%

-    Staff skills          21%



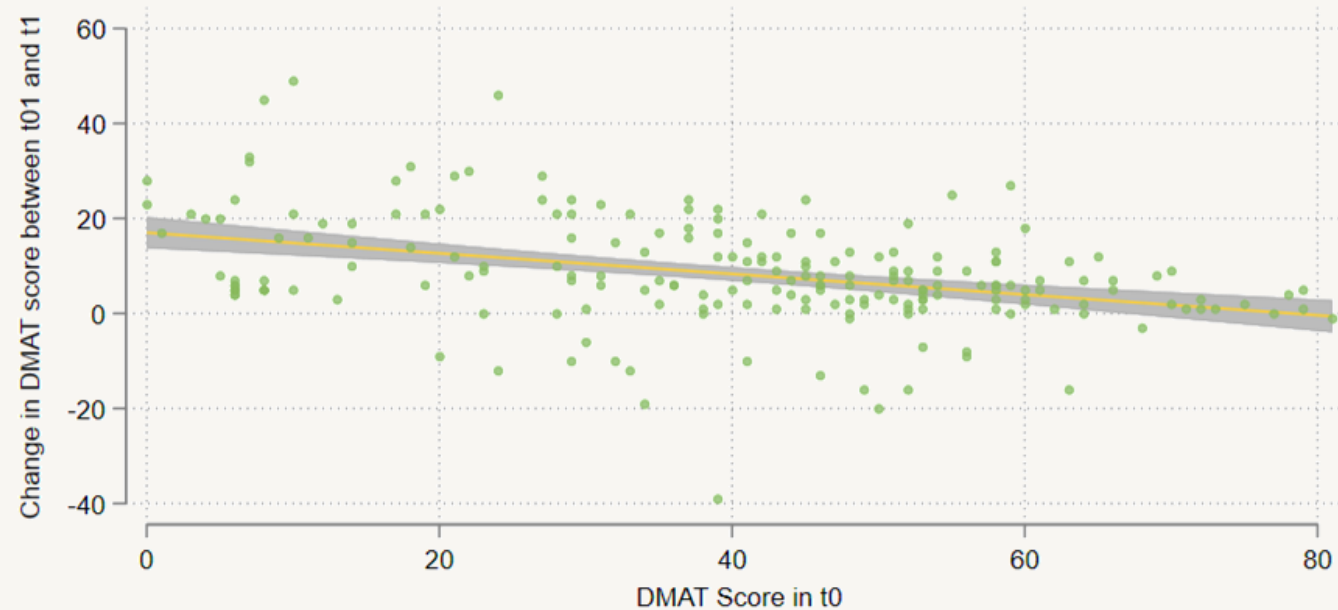European Digital Innovation Hubs Network

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# DMAT score development from T0 to T1

## Less digitalised firms increase their scores more

On average firms with low DMAT scores in t0 increase their scores relatively more in t1 than more digitalised firms

Longer time between t0 and t1 leads to higher score

90 % of firms increase their scores in second assessment



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# DMAT score development from T0 to T1

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Firms that decrease total score by 10-40 points from t0 to t1?
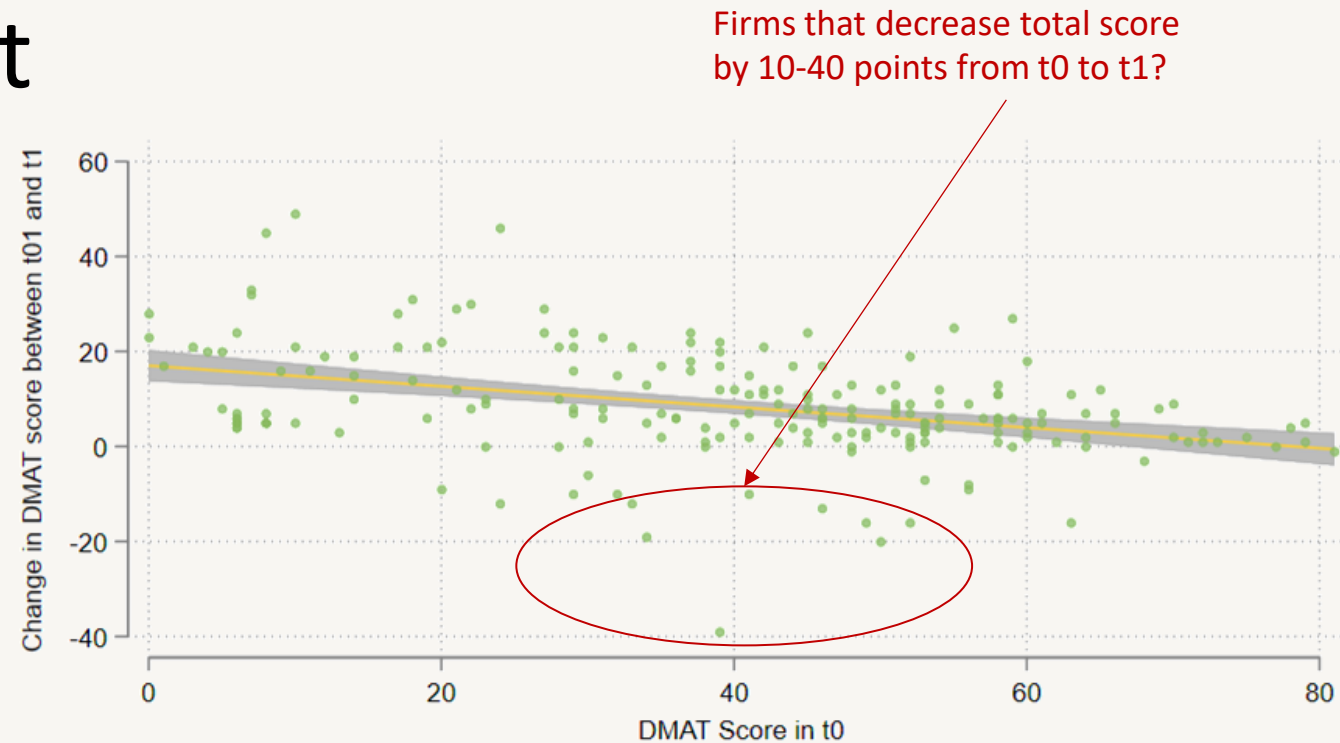
# Conclusions
## DMAT is working and unveiling patterns of digitalisation for SMEs

**Showing the level of digitalisation of EDIH clients**

- Average DMAT score 40, i.e. there is room for improving the level of digital maturity

**Showing the digitalisation path of EDIH clients**

- Strategy first, advanced technologies later

- Large variation between firms

**Showing the impact of EDIH interventions**

- Increase in all dimension scores from t0 to t1

- Less digitalised firms increase their scores more

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# Important note
## Data quality is essential for evaluation

To be able to support EDIHs and evaluate the hubs:

Delete test observations and report errors ⟶ False observations contribute to the evaluation of the EDIH!

How to ensure second and third assessments?

What feedback from the system would be beneficial for the work of the EDIHs?