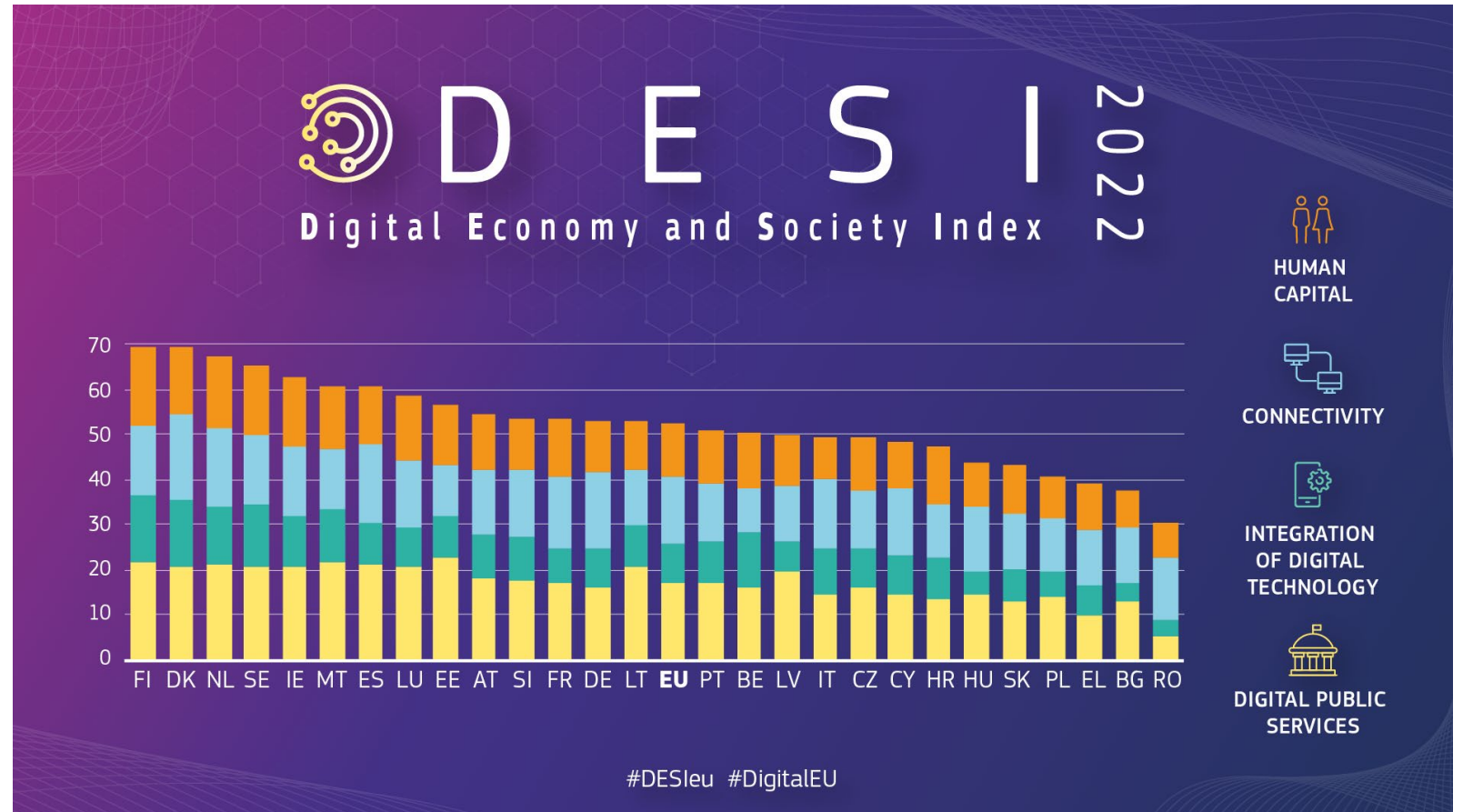


Digital economy Supply and Use Tables in Finland

Eljas Tuomaala, 23-25 April 2024, UNECE: Group of
Experts on National Accounts

Background

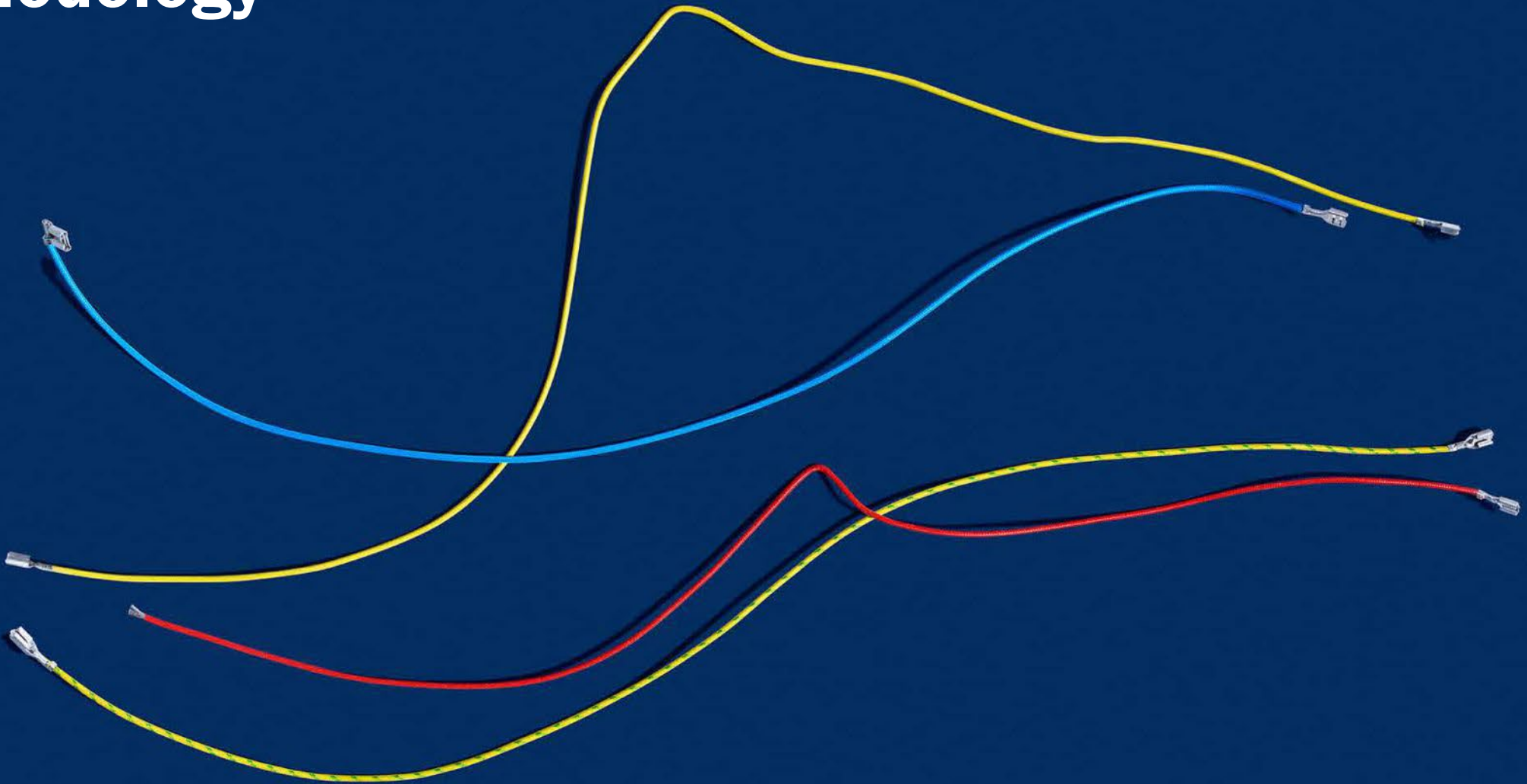
- Grant funding by Eurostat
- Project from 2021 to 2023
- Reference year 2018
- Following the OECD Guidelines
- Excluding products beyond SNA2008/ESA2010



<https://digital-strategy.ec.europa.eu/en/policies/desi>



Methodology



Main principles

- Focus on compilation of the complete tables and high priority indicators
- Use readily available data sources only
- Identify data gaps
- As easily reproducible as possible
- Experimental by nature

Digital industries



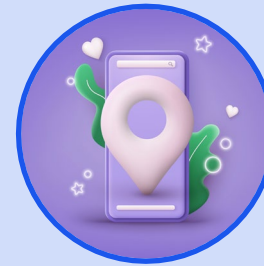
Digitally enabling industries

- Standard SUT aggregate industry level data
- Unit level data when needed to split industries



Digital intermediary platforms charging a fee

- A list of manually identified units combined with unit level data



Data and advertising driven digital platforms

- A list of manually identified units combined with unit level data



Firms dependent on intermediary platforms

- ICT Usage survey data for **incorporated**
- Indirect (short term accommodation, food delivery) data sources for **unincorporated**

Digital industries



E-Tailers

- ICT Usage survey data combined with unit level data
- ISIC rev. 4 Category 4791 “Retail sale via mail order houses or via Internet”



Digital only firms providing financial and insurance services

- A list of units identified as digital by Bank of Finland
- Not fully comprehensive



Other producers only operating digitally

- Research on most well-known firms
- Variety of issues: identifying, part of the main business, foreign units
- Industry **excluded**

Digital products

- Included:
 - ICT goods and Priced digital services
 - Priced cloud computing services
 - Priced digital intermediary services
- Excluded:
 - Products outside of SNA2008/ESA2010 production boundary, such as data
- In the Finnish SUTs the total number of products used at the working level is 836

ICT goods and Priced digital services

- Reclassifying the suitable products within the standard SUTs
- Overlapping with cloud computing and digital intermediary services is checked and adjusted accordingly

Priced digital intermediary services

- Domestic output is based on the Digital intermediary platform industry estimate
- Imports estimated as case studies, not reliable enough
- Industry breakdown for intermediate consumption is challenging

Priced cloud computing services

- Identifying potential product categories (CPA 58.2, 62.01, 63.11)
- Company study: breakdown between cloud and non-cloud
- Combining values and ratios on relevant NACE activities, final CCS output estimate
- No data sources for imports and use categories, therefore calculated proportionally based on the above estimate



Transaction types

Digitally ordered

- ICT Usage survey with strong assumptions
 - Questions on sales via digital means (split into direct from counterparty and via digital intermediary platforms)
 - Strong assumptions: for example, the percentage of digital ordering in telecommunication industry (NACE 61) was used on the similar product (CPA 61)
 - Did not provide plausible results on the use side
- Household final consumption expenditure based on a report on e-commerce in Finland in 2018 by Paytrail
 - Paytrail is a payment processing company that produces a report on e-commerce annually
- Some other minor data sources

Digitally delivered

- No decent data available
- Potential value of digitally deliverable services instead of actually digitally delivered
- Trade in Services by Mode of Supply (MoS)
 - Strong assumptions: mode of supply category one classified as digitally delivered
 - Some other adjustments
- Very difficult in practice

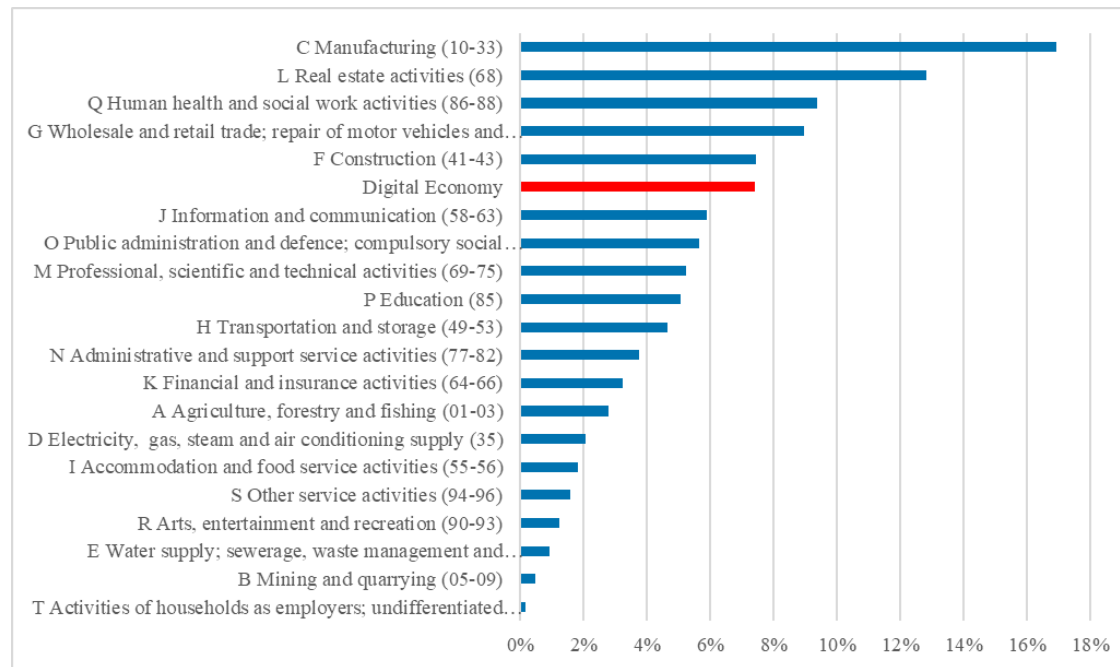


Results



Results: Digital industries

Digital industries' gross value added 7.4 %* of the total economy



*Digital Economy is not deducted from other industries in this figure

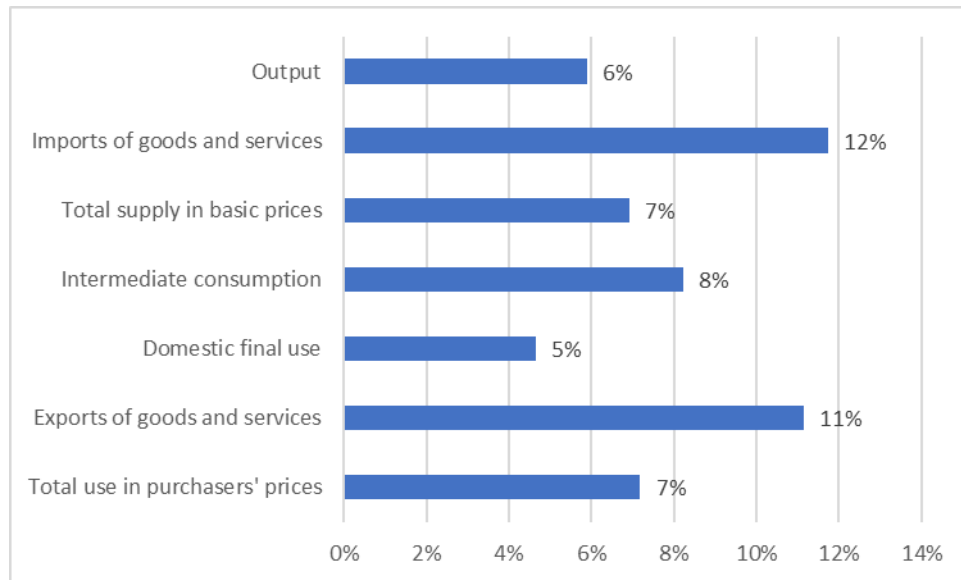
Digital industries in Finland, year 2018, EUR million, share of the digital economy

| Digital industry | Output | Gross value added | Output | Gross value added |
|---|---------------|-------------------|--------------|-------------------|
| Data and advertising driven digital platforms | 90 | 50 | 0 % | 0 % |
| Digital intermediary platforms charging a fee | 110 | 20 | 0 % | 0 % |
| Digital only firms providing finance and insurance services | 150 | 90 | 0 % | 1 % |
| Digitally enabling industries | 27,400 | 12,500 | 85 % | 84 % |
| E-tailers | 4,320 | 2,070 | 13 % | 14 % |
| Firms dependent on intermediary platforms, corporated | 30 | 10 | 0 % | 0 % |
| Firms dependent on intermediary platforms, unincorporated | 200 | 140 | 1 % | 1 % |
| Other producers only operating digitally | NA | NA | - | - |
| Digital economy | 32,300 | 14,880 | 100 % | 100 % |



Results: Digital products

Share of digital products of all products in 2018

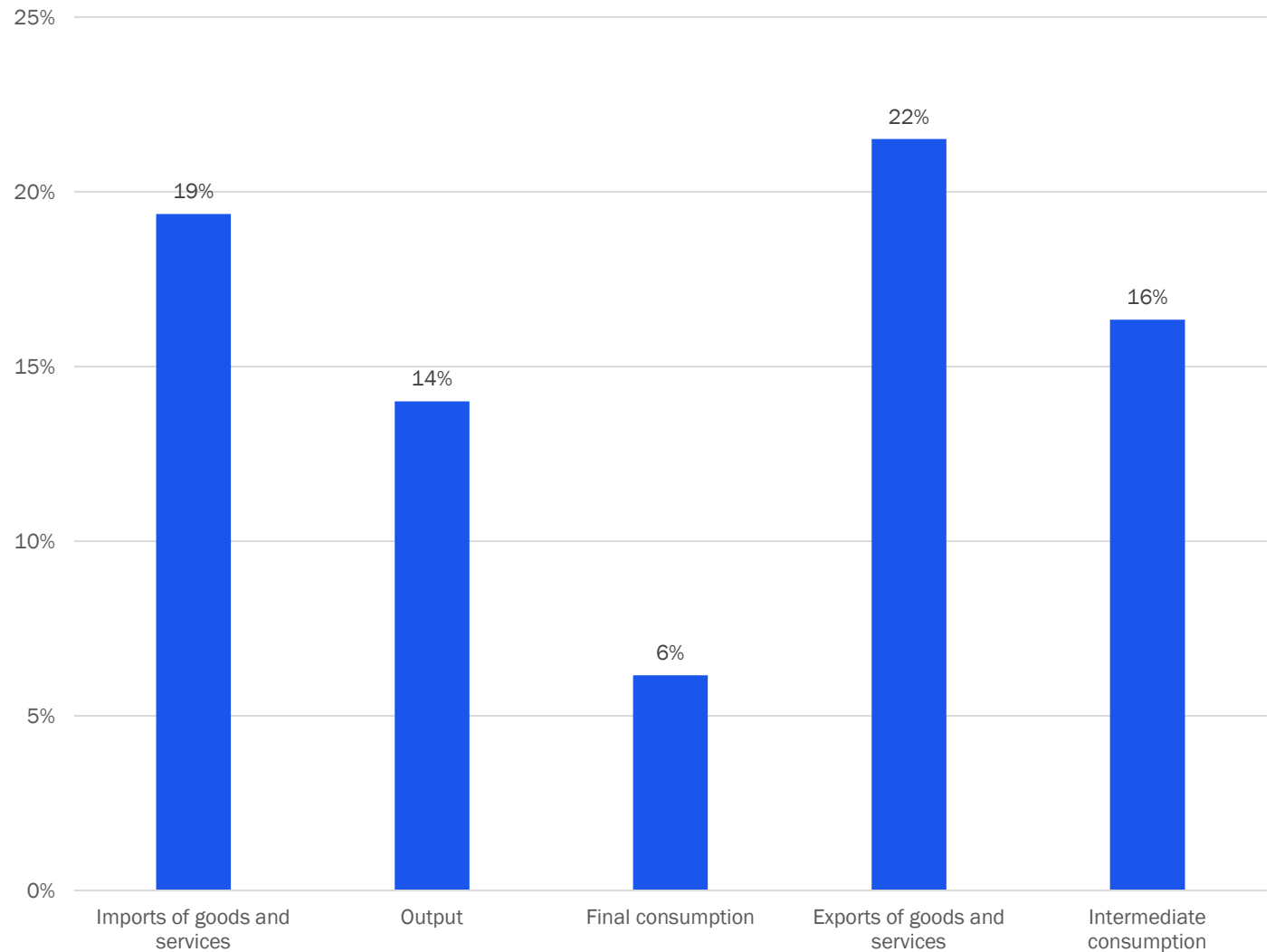


Digital products in Finland, year 2018, EUR million, share of all products

| Products | Total supply and use in purchasers prices, EUR million | Share of all products |
|---------------------------------|--|-----------------------|
| ICT goods | 10,270 | 1,8 % |
| Priced digital services | 25,810 | 4,6 % |
| Priced cloud computing services | 3,740 | 0,7 % |
| Digital intermediary services | 130 | 0,0 % |
| Total digital products | 39,950 | 7,1 % |
| All products | 561,103 | 100 % |

Results: Transaction types

- Digitally ordered:
 - Estimates on product level
 - Household final consumption expenditure based on a separate estimate: 9 % of total
- Digitally delivered:
 - 14 % of total output potentially digitally deliverable



Digitally ordered, % of total

Release

National publication in October 2023: an article on Statistics Finland's website

Also in English:

<https://www.stat.fi/tietotrendit/artikkelit/2024/digital-economy-rivals-construction-in-finland/>

Questions from users:

Data on employment (productivity)

International comparison

Lessons learned



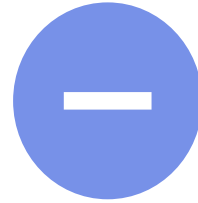
Opportunities

Even though the existing data are limited a lot can be done

Focus on main indicators

Time series more useful than the full tables?

Some parts easier to compile for multiple years than others



Challenges

Data gaps exist:

- Classifications in existing inquiries and statistics (CCS, DIS)
- International trade, foreign units
- Transaction types very difficult
- Lack of coverage: micro/small units, product level data

Quality ranging from reasonably reliable to highly experimental



What could be done?

Expanding current inquiries: new questions and/or improve coverage

Find new data sources

Elaboration of guidance and practical examples



Thank you!