



# Blending the old with the new

## Lessons from the Getting Skills Right initiative

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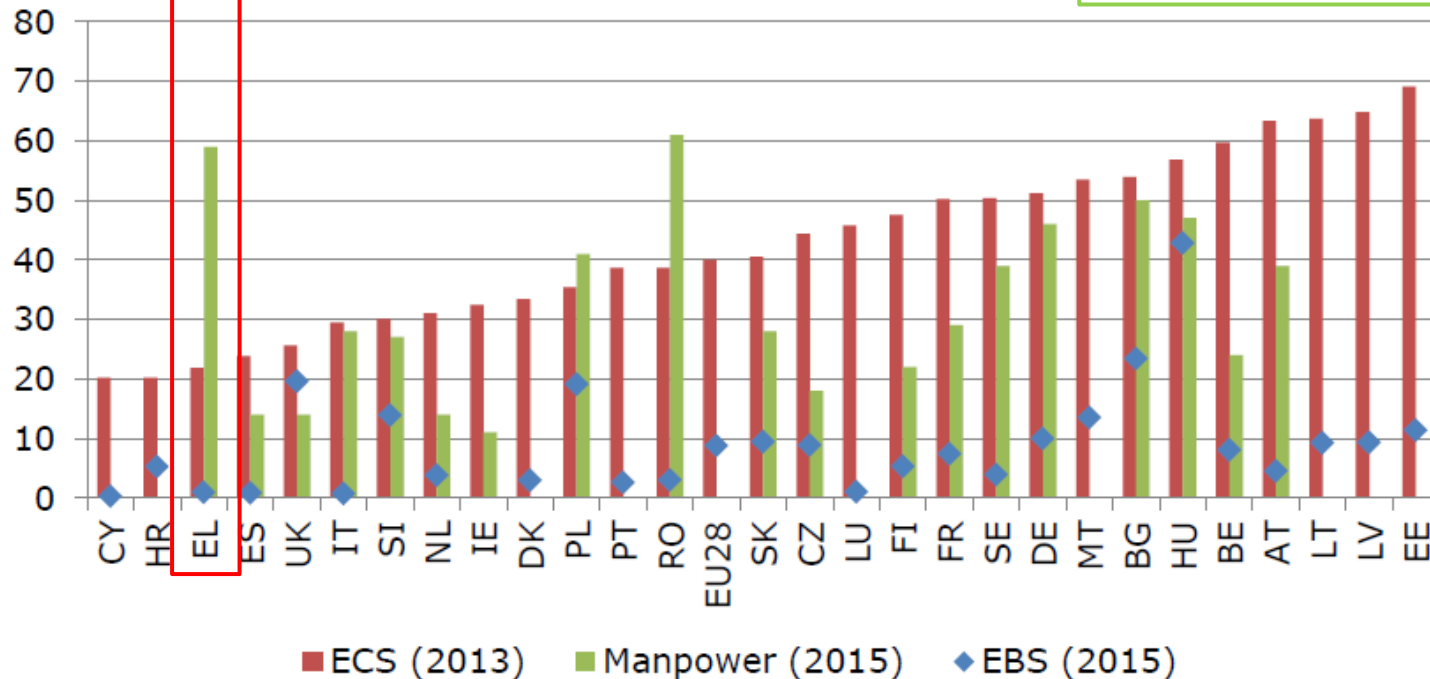
## The Past

**Information on Skill Needs  
and Shortages existed for  
some time...but...**



# Subjectivity is an important flaw

Subjective/ self-reported information



**Notes:** Countries sorted by ECS indicator. The European Company Survey (ECS) indicator reflects the share of employers who answer affirmatively to the question "Do you encounter difficulties in finding employees with the required skills?". The Manpower Talent Shortage Survey indicator measures the share of employers responding affirmatively to the question "How much difficulty are you having filling jobs due to lack of available talent?". The European Business Indicator considers the share of employers in the industry reporting that labour shortage is a major factor limiting production [Eurostat variable ei\_bsin\_q\_r2, averaged over 4 quarters of 2015].





# OECD Skills for Jobs database

Radically different approach from what is already existing

**Objective and comparable information**

Wage

Employment

Unemployment

Hours worked

Under-qualification

	Ranking occupations
1	Information and communications technology professionals
2	Science and engineering associate professionals
3	Business and administration associate professionals
4	Health professionals
...	...
...	...
...	...
30	Cleaners and helpers
31	Protective services workers
32	Personal care workers
33	Street and related sales and service workers





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Employment

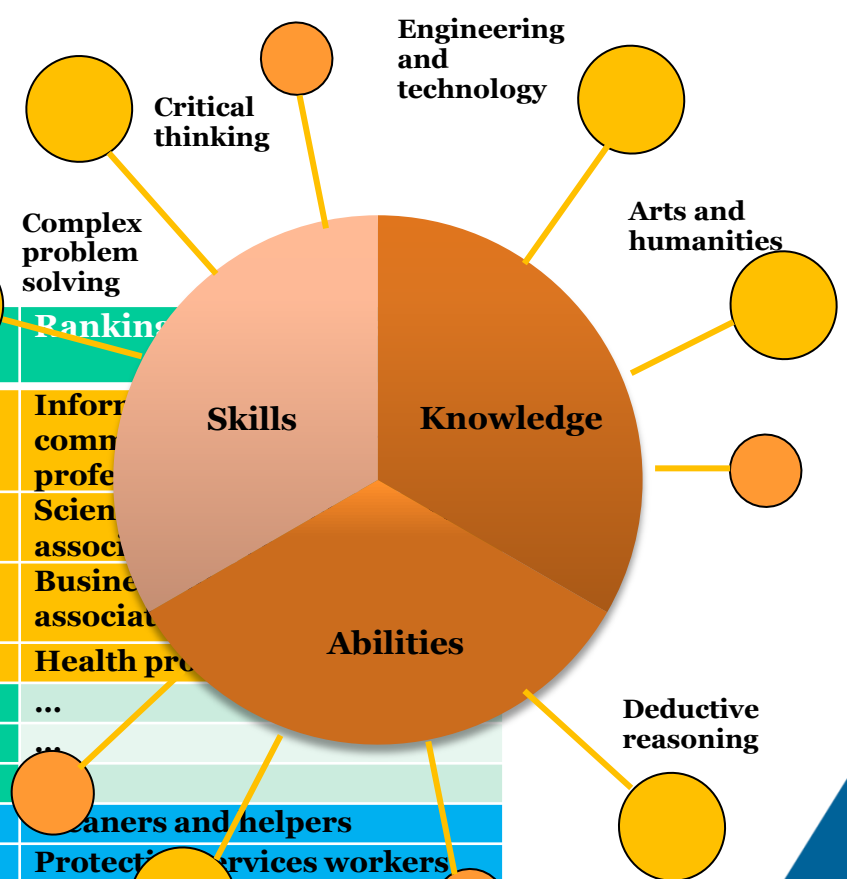
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O\*NET

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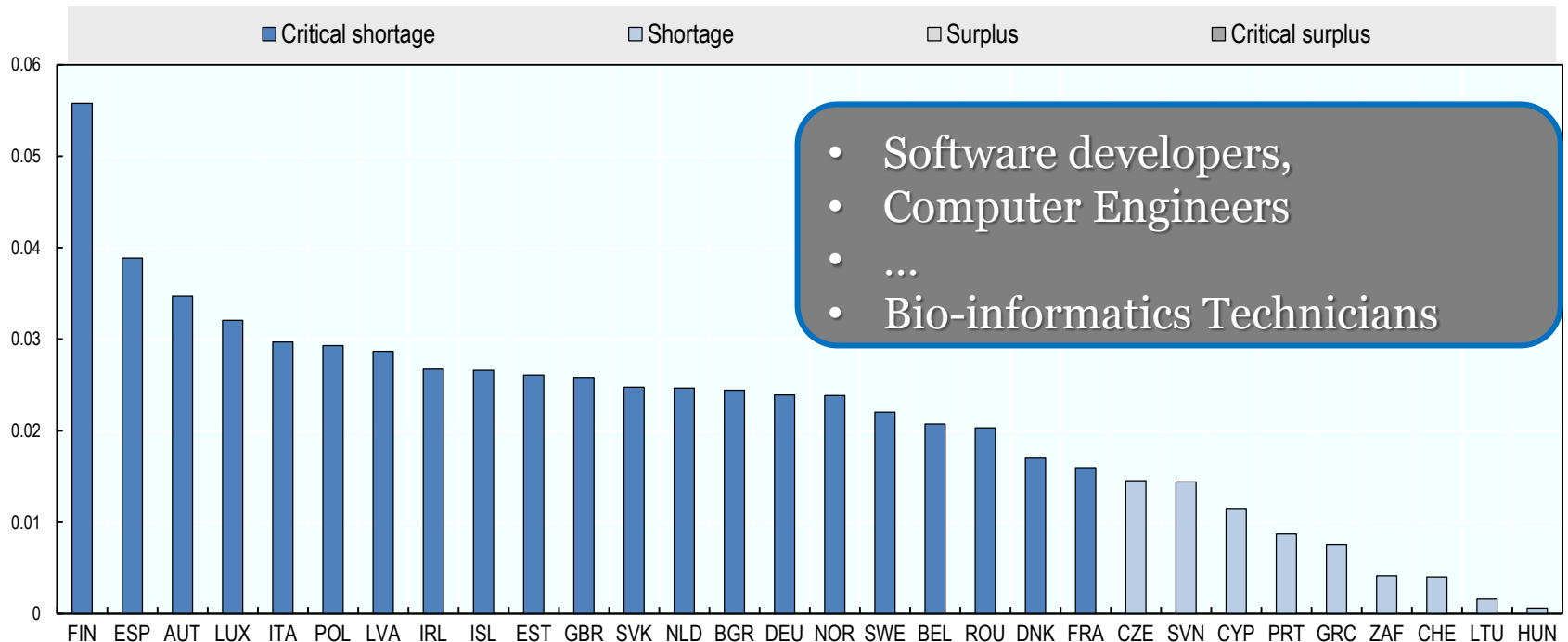




# Skill shortages across EU countries

Most **occupations in High-Demand** share the characteristic of requiring a strong command of Computers and Electronics Knowledge

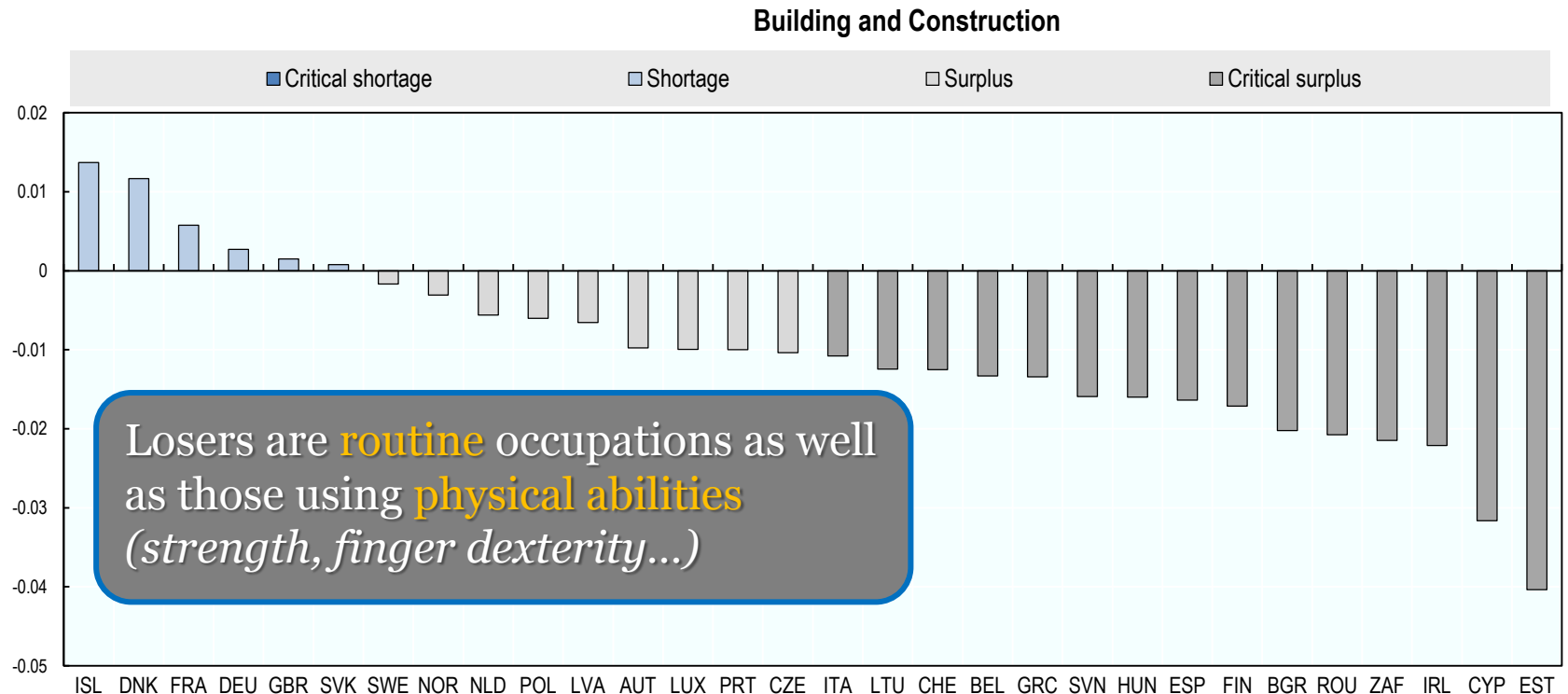
## Computers and Electronics





# Skill shortages across EU countries

Changes in the labour market are also releasing pressure (demanding less) skills related to more traditional areas such as **Knowledge in Building and Construction**





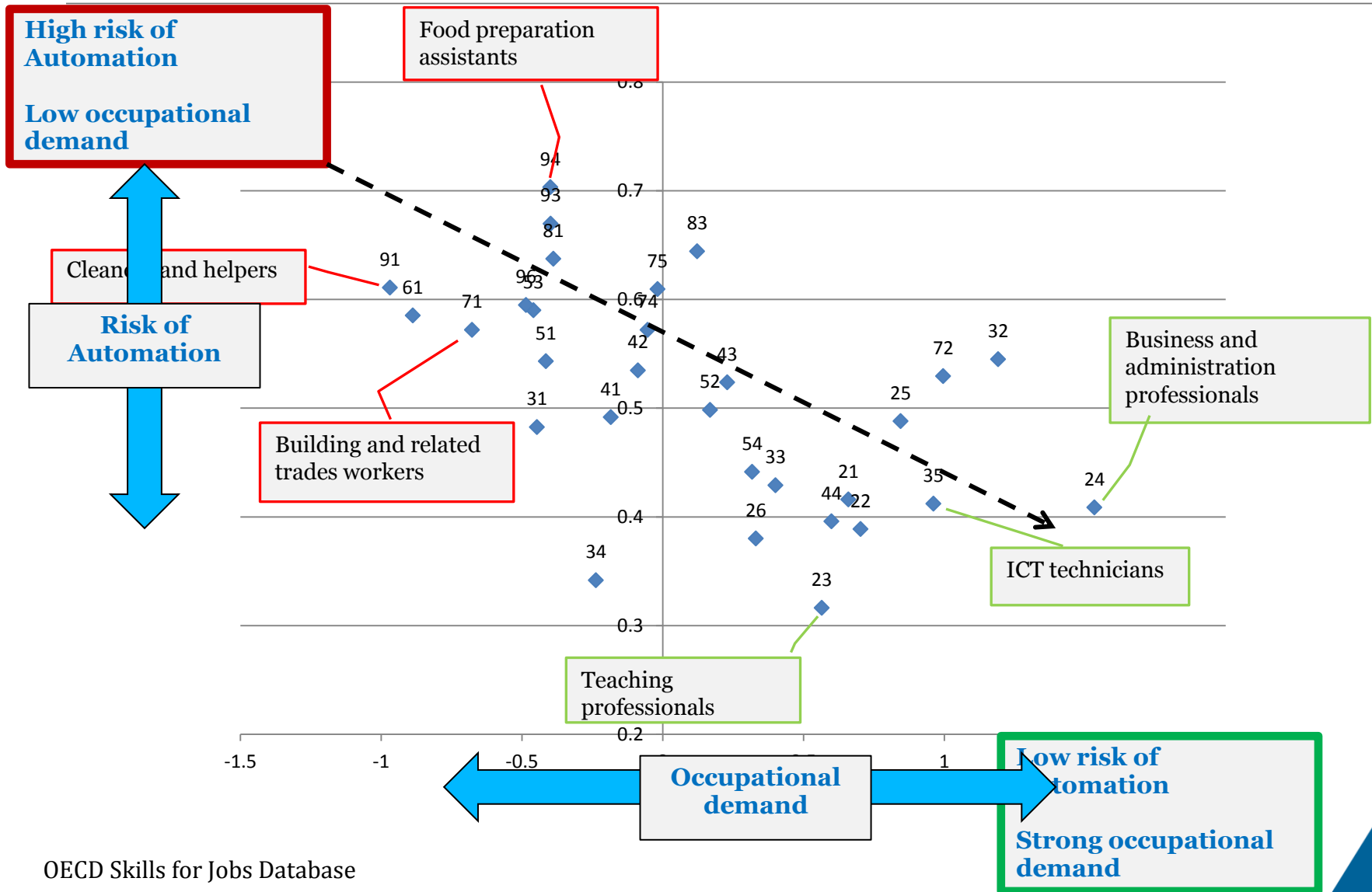
# Mega-trends and the future skill demands

## Results



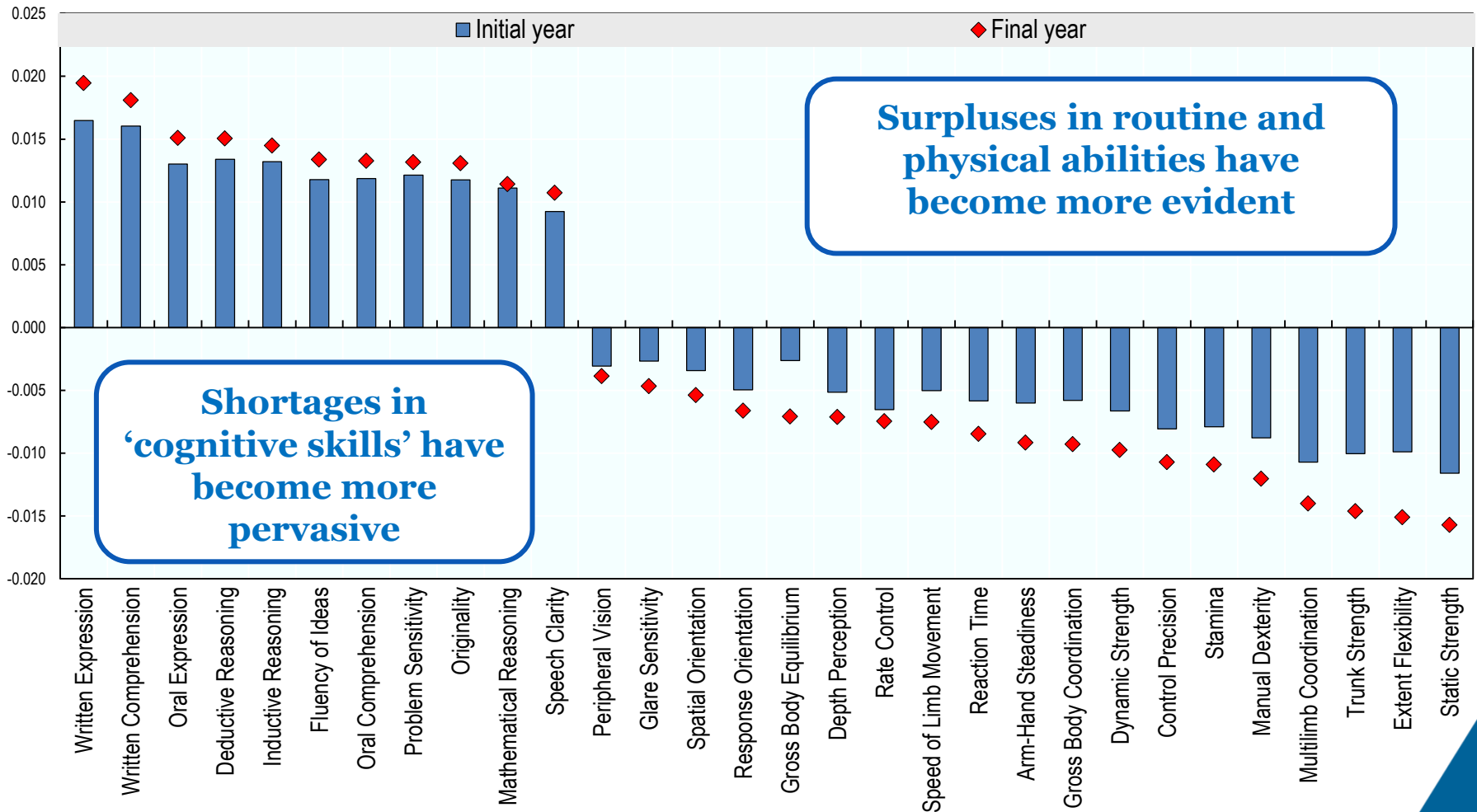


# Automation and Occupational Shortage





# Time Evolution of Shortages and Surpluses





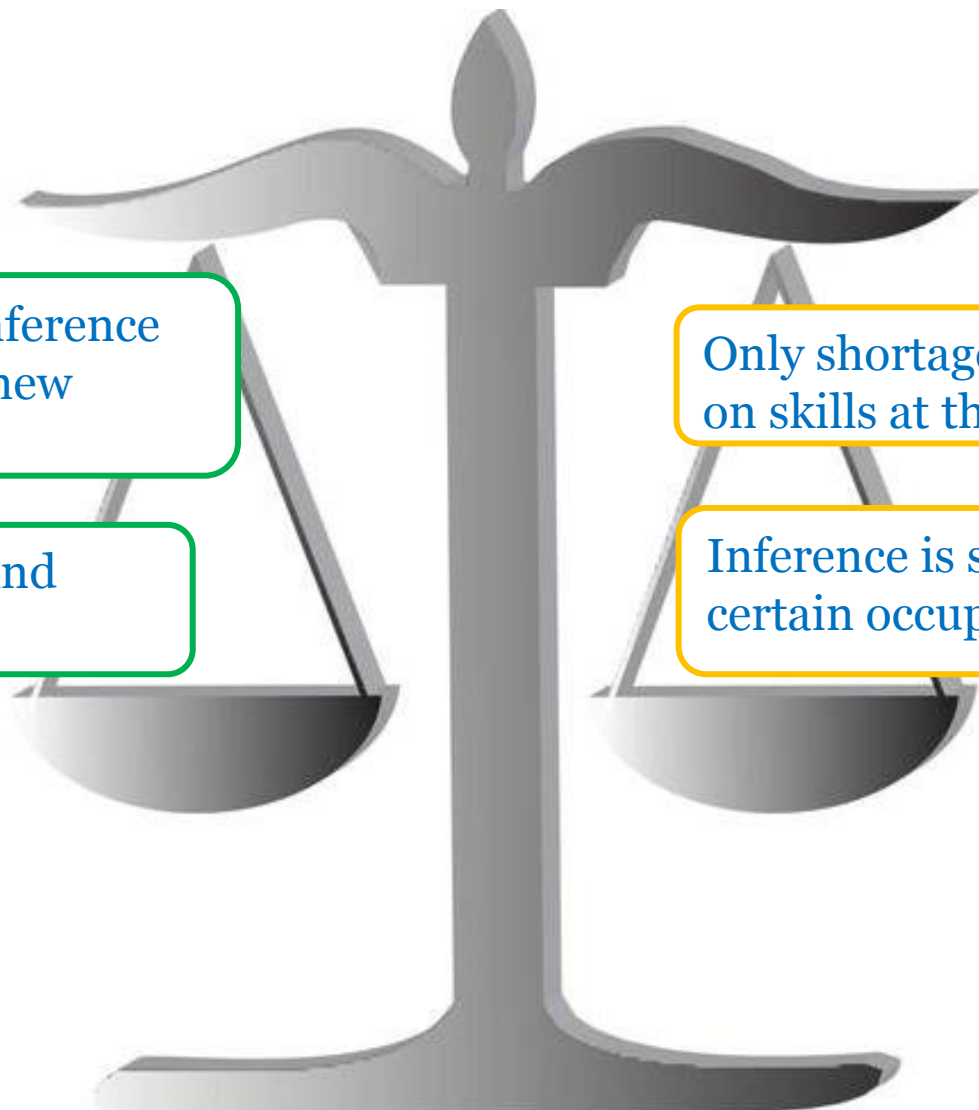
## The Future

# Real-Time Big Data (RTBG) labour market intelligence





# What are the advantages of RTBG labour market intelligence?



Possibility of inference on semantics (new occupations)

Extremely large and timely samples

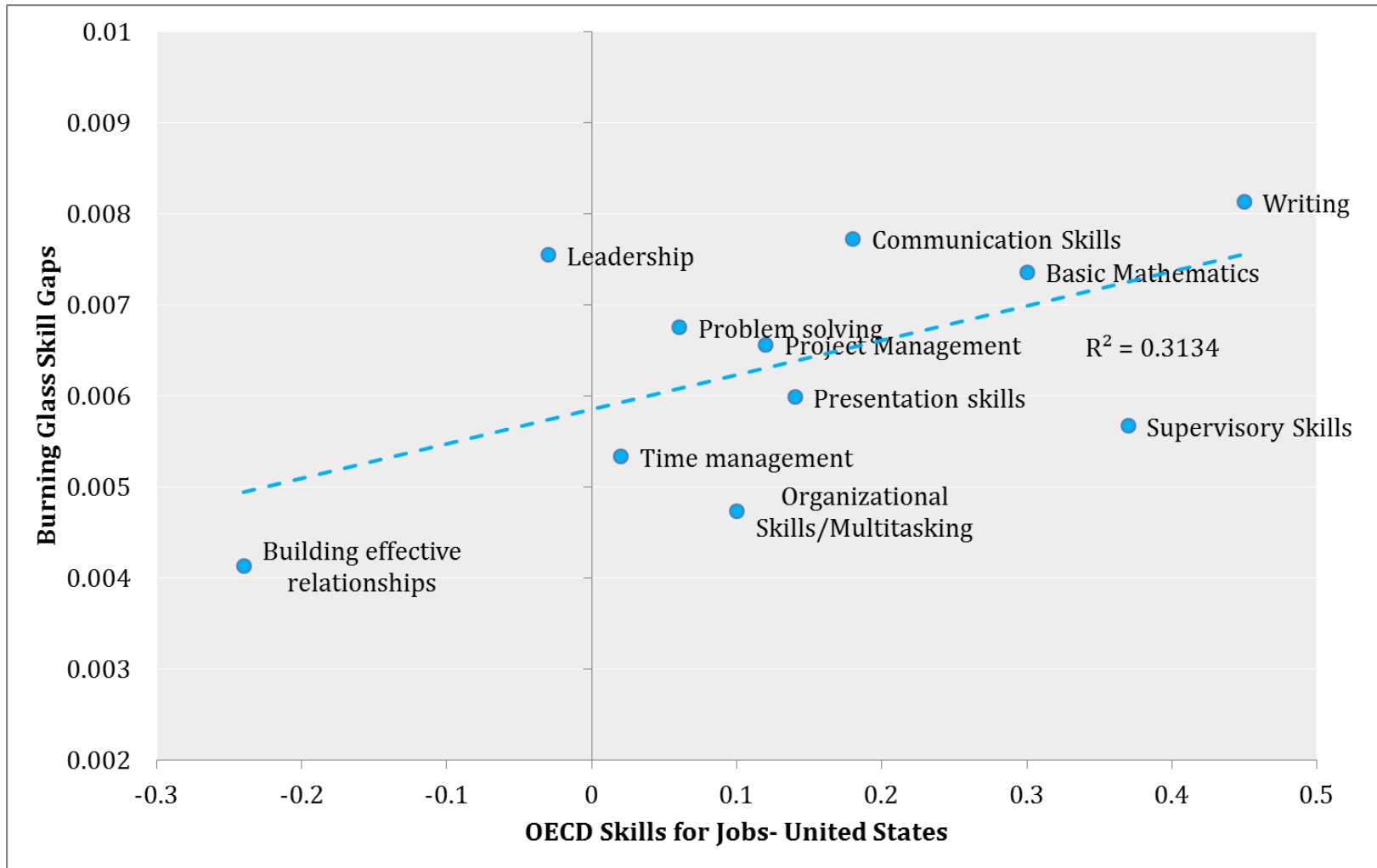
Only shortages- and mostly on skills at the 'margin'

Inference is skewed towards certain occupations





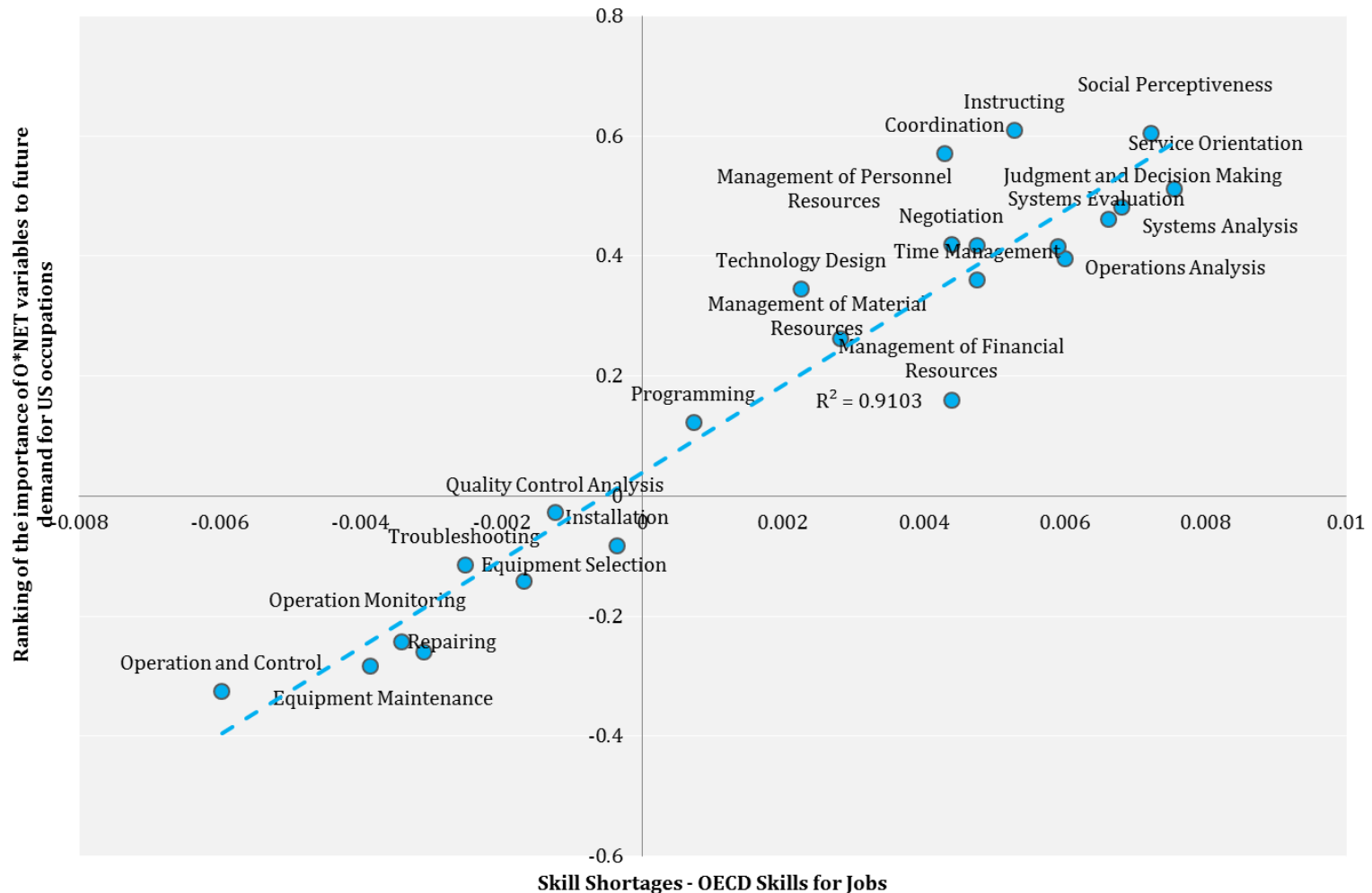
# How does the **Skills for Jobs** database compare? **Burning Glass**





# How does the Skills for Jobs database compare? NESTA

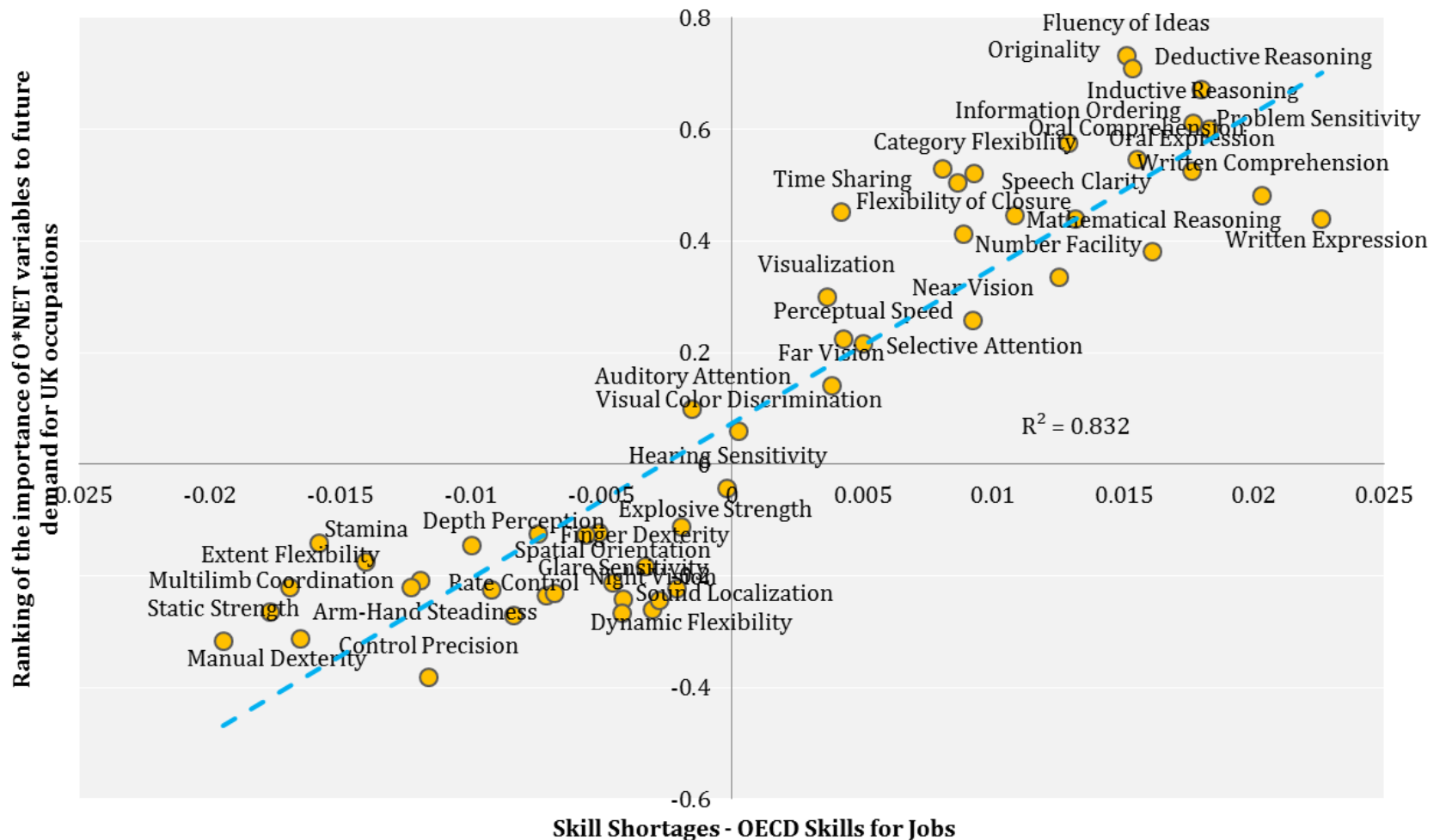
**SKILLS:** NESTA Machine learning foresight vs OECD Skills for Jobs





# How does the **Skills for Jobs** database compare? **NESTA**

**Abilities:** NESTA Machine learning foresight vs OECD Skills for Jobs





# Conclusions

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**Past** exercises are useful but they do have major drawbacks when trying to compare skill needs across countries (and over time)

**Future** (coming soon) exercises have great potential in terms of data availability, coverage and inference... but several aspects needs to be fixed before we can rely on them

**Current** exercises (OECD S4J) do provide a more objective snapshot of skill demands and compare well to (or outperform) other exercises by bringing several interesting features across very different countries and over time



# Conclusions (2)

## OECD Skills for Jobs is expanding

- *USA, Canada, Brazil, Chile, Peru, Argentina, Mexico, New Zealand, Turkey*
- *Regional disaggregation (when data is available)*
- *Sectoral disaggregation*

## OECD Skills for Jobs is for FREE (!)

- *Download the data:*  
<http://stats.oecd.org/Index.aspx?QueryId=77642>
- *Download the report (Getting Skills Right: Skills for Jobs Indicators)*  
[https://www.oecd-ilibrary.org/employment/getting-skills-right-skills-for-jobs-indicators\\_9789264277878-en](https://www.oecd-ilibrary.org/employment/getting-skills-right-skills-for-jobs-indicators_9789264277878-en)

**...or simply, take a look at the datavisualisation!**

<http://www.oecd.org/employment/skills-for-jobs-dataviz.htm>



# Skills for Jobs

**Thank you for your  
attention**

**Contact:**

**[Fabio.MANCA@OECD.org](mailto:Fabio.MANCA@OECD.org)**





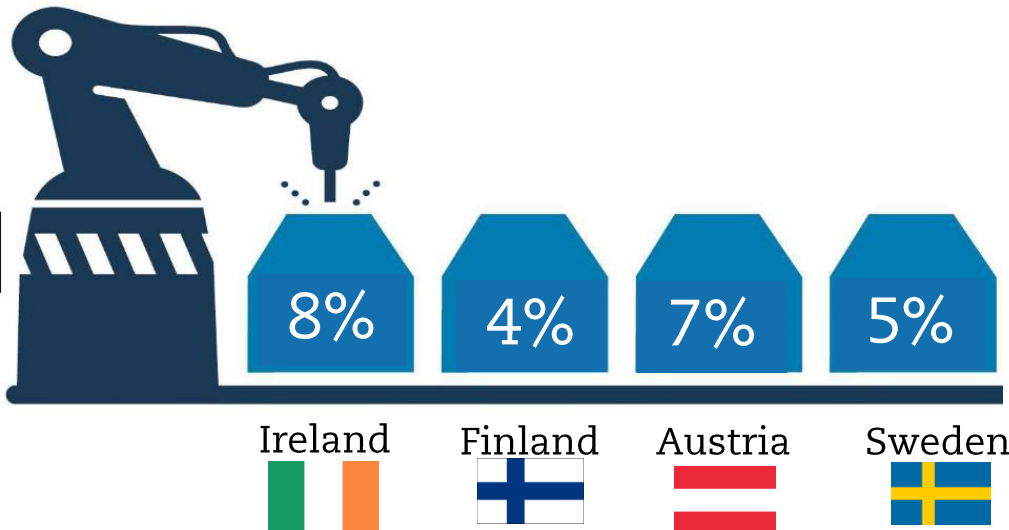
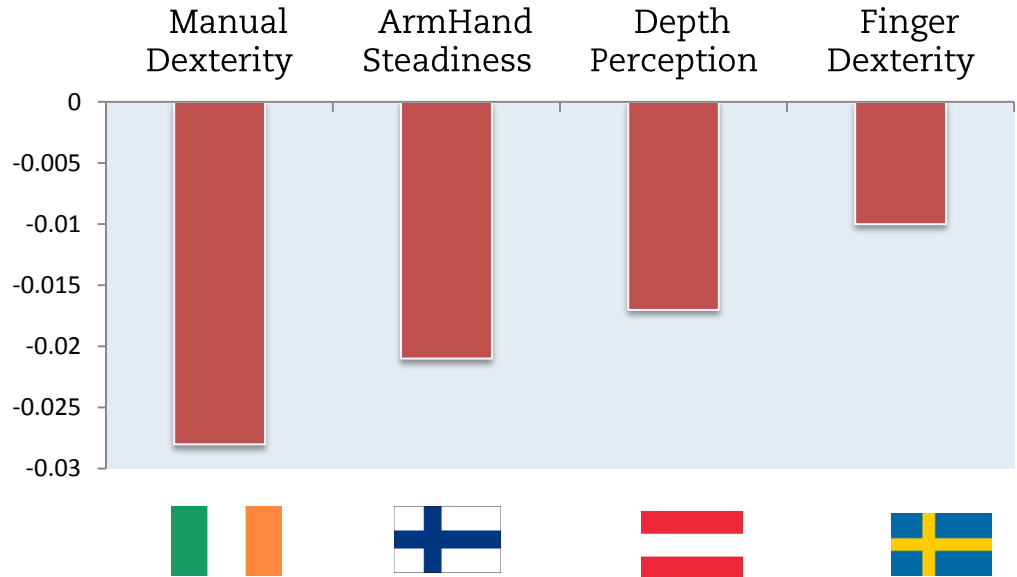


# Skill needs and emerging mega-trends





# Robotics and skill needs



**Robotics penetration**  
(1993-2013, per hour worked)



# What is behind the demand for the knowledge of **Psychology**?

Browse by O\*NET Data

## Knowledge — Psychology Save Table (XLS/CSV)

Knowledge of human behavior and performance; individual differences in ability, personality, and interests; learning and motivation; psychological research methods; and the assessment and treatment of behavioral and affective disorders.

Sort by:	Importance ▲	Level	Code	Occupation	
100	98	19-3039.01	<a href="#">Neuropsychologists and Clinical Neuropsychologists</a>	☀ Bright Outlook	←
100	97	19-3031.03	<a href="#">Counseling Psychologists</a>	☀	
100	96	19-3031.02	<a href="#">Clinical Psychologists</a>	☀	
100	88	19-3031.01	<a href="#">School Psychologists</a>	☀	
99	93	21-1022.00	<a href="#">Healthcare Social Workers</a>	☀	
99	93	21-1014.00	<a href="#">Mental Health Counselors</a>	☀	
98	94	29-1066.00	<a href="#">Psychiatrists</a>	☀	
98	90	19-3032.00	<a href="#">Industrial-Organizational Psychologists</a>		
97	94	29-1141.02	<a href="#">Advanced Practice Psychiatric Nurses</a>	☀	
97	92	29-1125.01	<a href="#">Art Therapists</a>		
97	91	21-1013.00	<a href="#">Marriage and Family Therapists</a>	☀	
97	89	21-1011.00	<a href="#">Substance Abuse and Behavioral Disorder Counselors</a>	☀	
96	93	21-1023.00	<a href="#">Mental Health and Substance Abuse Social Workers</a>	☀	
96	90	25-1066.00	<a href="#">Psychology Teachers, Postsecondary</a>	☀	
95	88	29-1125.02	<a href="#">Music Therapists</a>		
95	79	21-1012.00	<a href="#">Educational, Guidance, School, and Vocational Counselors</a>	☀	
94	89	25-1113.00	<a href="#">Social Work Teachers, Postsecondary</a>	☀	←
93	81	29-1199.04	<a href="#">Naturopathic Physicians</a>	☀	
92	79	29-1069.08	<a href="#">Physical Medicine and Rehabilitation Physicians</a>	☀	
91	88	29-1062.00	<a href="#">Family and General Practitioners</a>	☀	
91	82	29-1122.00	<a href="#">Occupational Therapists</a>	☀	
89	86	29-1171.00	<a href="#">Nurse Practitioners</a>	☀	←
89	70	29-9092.00	<a href="#">Genetic Counselors</a>	☀	
88	71	21-1021.00	<a href="#">Child, Family, and School Social Workers</a>	☀	
87	86	29-1125.00	<a href="#">Recreational Therapists</a>		
86	77	17-2112.01	<a href="#">Human Factors Engineers and Ergonomists</a>	☀	
86	74	21-1093.00	<a href="#">Social and Human Service Assistants</a>	☀	←
85	78	25-1072.00	<a href="#">Nursing Instructors and Teachers, Postsecondary</a>	☀	
85	75	29-1161.00	<a href="#">Nurse Midwives</a>	☀	
84	79	43-4051.03	<a href="#">Patient Representatives</a>	☀	

☀ Bright Outlook

[Show all occupations](#)





# Definitions

**Knowledge** statements refer to an **organised body of information** usually of a factual or procedural nature which, if applied, makes adequate performance on the job possible. A body of information applied directly to the performance of a function.

- *Skill* statements refer to the **proficiency (manual, verbal or mental) to manipulate data or things**. *Skills* can be readily measured by a performance test where quantity and quality of performance are evaluated, usually within an established time limit. Examples of proficient manipulation of things are skill in typing or skill in operating a vehicle. Examples of proficient manipulation of data are skill in computation using decimals; skill in editing for transposed numbers, etc.
- *Ability* statements refer to the **power to perform an observable activity at the present time**. This means that abilities have been evidenced through activities or behaviours that are similar to those required on the job (e.g., ability to plan and organise work). Abilities are different from aptitudes as the latter only relate to the potential to perform the activity.

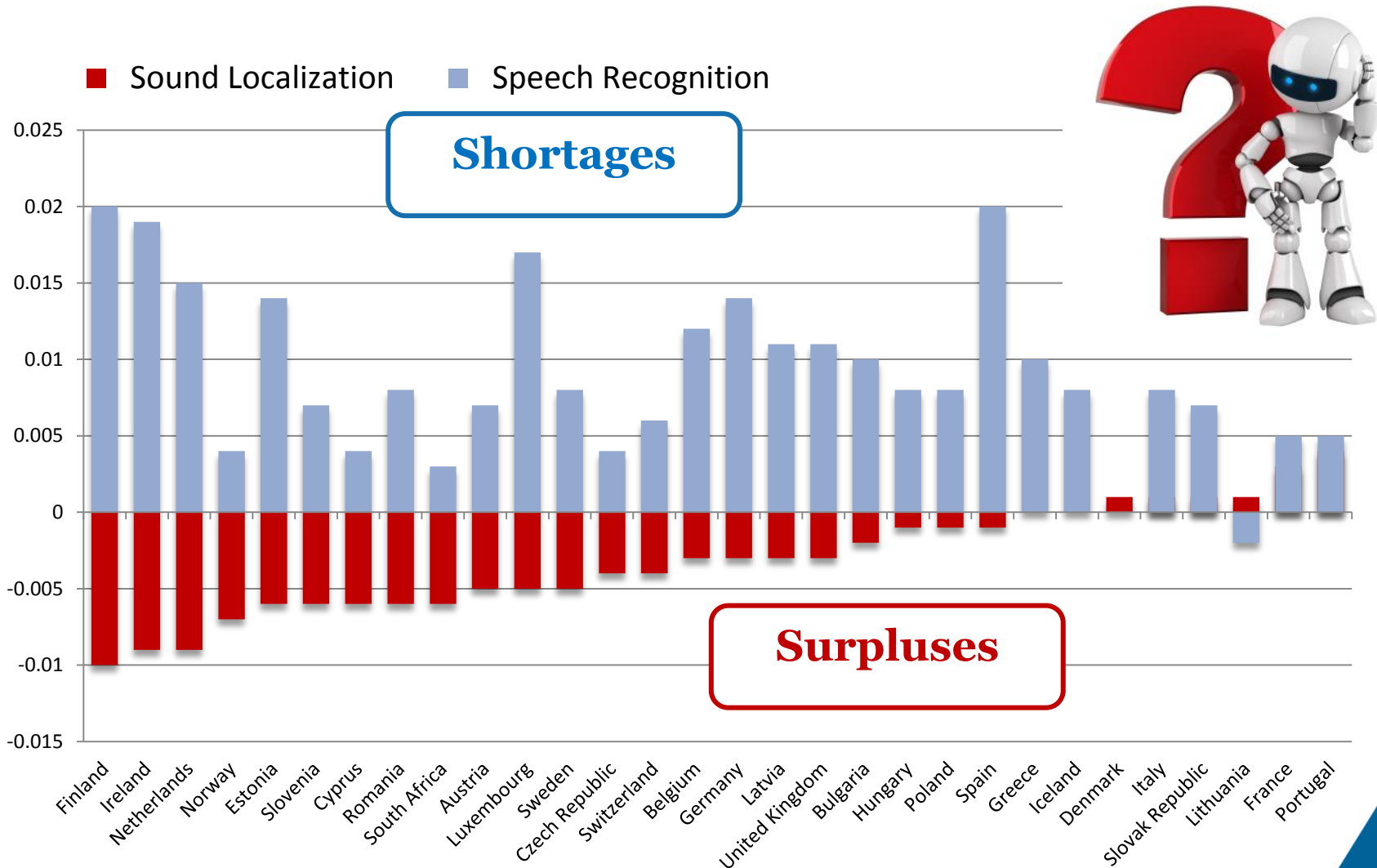


# Linking data to policies?





# Mega-trends and skill needs





# Mega-trends and skill needs

