OECD Skills for Jobs Database

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Too many workers are mismatched, over or under-qualified

- Germany: 37%
- Finland: 28%
- Czech Republic: 16%
- Portugal: 43%
- Greece: 44%

Source: OECD Skills for Jobs Database
Mismatch is pervasive

80 million workers in European countries are mismatched by qualifications

Substantial wage penalty
- 24 % for workers mismatched by field and qualifications

Source: OECD Skills for Jobs Database
Wage penalties can be substantial
Mismatched by field and over-qualified

Source: Montt (2015)
Mismatches can co-exist with Shortages

Manpower talent Shortage Survey - 2015

Japan  
Greece  
Mexico  
Turkey  
New Zealand  
Hungary  
Germany  
Australia  
Switzerland  
Poland  
Sweden  
Austria  
OECD (27)  
United States  
Canada  
Norway  
France  
Slovak Republic  
Italy  
Slovenia  
Belgium  
Finland  
Czech Republic  
UK  
Spain  
Netherlands  
Ireland

Vacancies remain unfilled for too long

1.3 M

Delays in production

>1 M firms face skills shortages

Re-training costs

Slow adoption of technologies
What skills?

New OECD Skills for Jobs Database
OECD Skills for Jobs database

Radically different approach from what is already existing

Objective and comparable information

<table>
<thead>
<tr>
<th>Ranking occupations</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Information and communications technology professionals</td>
</tr>
<tr>
<td>2</td>
<td>Science and engineering associate professionals</td>
</tr>
<tr>
<td>3</td>
<td>Business and administration associate professionals</td>
</tr>
<tr>
<td>4</td>
<td>Health professionals</td>
</tr>
<tr>
<td>...</td>
<td>...</td>
</tr>
<tr>
<td>30</td>
<td>Cleaners and helpers</td>
</tr>
<tr>
<td>31</td>
<td>Protective services workers</td>
</tr>
<tr>
<td>32</td>
<td>Personal care workers</td>
</tr>
<tr>
<td>33</td>
<td>Street and related sales and service workers</td>
</tr>
</tbody>
</table>
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Radically different approach from what is already existing

Objective and comparable information

- Wage
- Employment
- Unemployment
- Hours worked
- Under-qualification

O*NET

Skills

Knowledge

Abilities

Critical thinking

Complex problem solving

Engineering and technology

Arts and humanities

Deductive reasoning

Finger dexterity
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Results
Skill shortages across EU countries and South Africa

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

- Software developers,
- Computer Engineers
- ...
- Bio-informatics Technicians

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Skill shortages across EU countries and South Africa

... or the Knowledge of Medicine and Dentistry

Medicine and Dentistry

- Critical shortage
- Shortage
- Surplus
- Critical surplus

- Pathologists
- Nurses, Surgeons
- ...
- Nuclear medicine physicians

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Skill shortages across EU countries and South Africa

... or the Knowledge of Mathematics

Mathematics Knowledge

- Physics teachers
- Mechanical Engineers
- Economists

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Surpluses?
Changes in the labour market are also releasing pressure (demanding less) skills related to more traditional areas such as 

Knowledge in Building and Construction

Losers are routine occupations as well as those using physical abilities (strength, finger dexterity...)

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Time Evolution of Shortages and Surpluses

- Shortages in ‘cognitive skills’ have become more pervasive
- Surpluses in routine and physical abilities have become more evident

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Mega-trends and skill needs

Robotics penetration (1993-2013, per hour worked)

Source: OECD on International federation of robotics
What is next?

Data visualisation!

http://www.oecd.org/employment/skills-for-jobs-dataviz.htm
In Italy, the following occupations contribute most to the shortage of Engineering, Mechanics and Technology:

- Science & engineering professionals
- Science & engineering associate professionals
- ICT professionals
- ICT technicians
- Metal & machinery trades workers

**Engineering, Mechanics and Technology**

Knowledge of the design, development, and application of technology for specific purposes.
Thank you for your attention
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