

SPEAK OUT

Industry 4.0 and
Social SustainabilityModerated by
**Link Campus University and
Consiglio Nazionale Delle Ricerche**This Factsheet summarizes
the inputs and opinions shared
through HubIT's forum platform
HERE on February 2020.

Introduction to the topic:

The transformation caused by the digitalization of manufacturing is so vigorous that we even gave it a name to distinguish it from its before and after: Industry 4.0. This fourth revolution comes after the mechanization through water and steam power, followed by the mass production and assembly lines using electricity in the second, and marking its position by upgrading the third, caused by the adoption of computers and automation, now being powered by smart and autonomous systems which include data and machine learning.



It all sounds good, right? Well, at HubIT we wanted to take a look at the challenges that all of this encompasses.

Here's what was
shared in our
Forum regarding:

01. How do digital technologies and Industry 4.0 impact social, economic and environmental sustainability?

02. How to balance digital resources and humanity into a smart factory?

03. What are the issues of the Industry 4.0 related to cybersecurity?

01

How do digital technologies
and Industry 4.0 impact social,
economic and environmental
sustainability?Launching the
topic with a quote:

"We cannot have a truly prosperous society if we forget to place the human world at the center of our attention."

And then quickly moving
to the first question

Does Industry 4.0 improve social status in terms of better answer to market needs?

A: Increasing quality of products and services allows a better response to user needs.

However

This is not the case when products and services are design putting industry above end users.

Data is at the core of many ICT companies, but it's
sometimes disconnected from human aspects.
How to change this?

- Even though defining duties in such a rapidly evolving world isn't easy, responsibility should **grow alongside** power (measured by the impact on society). As thrilling as the notion of responsible research and development is, it should be consensually mandatory for large enterprises.
- **Citizens** should not be included in industrial processes but only in the data management definition; Citizens should be included in the definition of industrial social data processing since a big percentage of data is produced and provided by people;

BUT

For this to happen we need to define who can/is willing to contribute (in other words has got the motivation, as a citizen, to engage in the process)

In what way is citizen involvement
in Industry 4.0 different from their
involvement in industrial processes
before this era?

Citizens hold a double role
1st as inhabitants of the territory where an industry takes place (in relation to an environmental perspective).
2nd as data generators and owners.

- **So, this is where governments come in:**
 - Territorial and national governments could start thinking about supporting measures to pilot new interactions among the industry and citizens above all. Since this issue involves the ethical dimension, Governments should address initiatives aiming to promote responsibility and skills for all the different Actors.
 - Policies are essential as they can drive change and regulate different points of view on IPR or ethical issues.

However, stepping aside from this idea a bit:

RRI should always be considered, even beyond what is strictly requested by rules: finding good motivations for companies and citizens to interact, engage in social causes, etc. should be more powerful than imposing legislation.

And what is there to say
about digital skills?

To list a few

Flexibility, ability to work autonomously, problem solving attitude. They are essential to use these services and people should be educated on how to acquire with them.

Can these be connected
to the consumer of
digital services?

It's tricky since we cannot force people to follow the industry needs unless some public-private-partnership dynamics were to take place. It's possible to engage citizens with industries if there's an actual economic payoff which could be done, for example, with social blockchain.

Issues that first come to mind

- Technology availability: offering help can be sabotaged by the impossibility to go online (in some countries the percentage of population that has access or chooses to access the internet is low).
- Citizens may be aware of a service or product even though they are not able to use/acquire it. Is this a form of exclusion?
- Digital skills are evolving faster than our capability of including them within formal education.

And how to defeat them

- Transformation is a process, not a product, hence why we can't just swap our current skills with digital skills. We should develop our skills so that they become digital or acquire digital skills in order to develop our current skills. One does not have to cancel the other and this should be a continuous process from now on.
- It's crucial to facilitate the integration of new 4.0 technologies in existing contexts and make them available as quickly and intuitively as possible, updating the relationship between people and machines.

**Governments****Industries****Schools****High Education****Research Institutions****Civil Society**

02

How to balance digital resources
and humanity into a smart factory?

IF blockchain driven solutions leaned towards informing customers about the value chain of products, this would improve ecosystems for business development and, more importantly, contribute to enhancing social and environmental responsibility on both business and customer side.

Blockchain can support sustainability, transparency and traceability by storing data on the whole value chain, e.g. before the purchase you could be informed about who sewed the t-shirt you aim to buy, if the tailor earned a decent salary, what is the product's footprint, etc.

Which leads to
the question

Does that blockchain have an impact (positive or negative) in the relationships among teammates?

And the answer

It could result in improved clarity and trust which could perhaps be a reason to enhance work itself.



03

What are the issues of
the Industry 4.0 related
to cybersecurity?

First things first:

What is the ethical impact of tracking workers movements and digital behavior to improve factories' performance?

This presents three problems

01. It could be a big risk in terms of hacking.
02. The information could be used against workers themselves when it should only be collected for statistics for improving (e.g.) the production process or the quality of products.
03. Constant surveillance can also negatively impact worker's productivity; while some processes/locations might need to be monitored; others need to remain IOT-free

Not just a workers' issue

There are companies that may know a certain person's location every second of the day (e.g. if you use wearable health monitor devices), and therefore have the power to use the information against them.

But we need to be reminded that

The information itself, if used correctly, can be improve people's safety, health, productive processes or customer satisfaction, etc.

To conclude

With digitalization comes great power, and great power can encompass big problems. Industry 4.0 can positively impact people's lives but it needs to feature regulation, privacy must be a priority, and ethics are vital.

The conversation isn't done
you can still join the discussion **HERE** and leave
your thoughts.Some interesting reads
mentioned by the participants:

Industrial 4.0 VS Society 5.0

(The Oxford Institute of Population Ageing)

**Data Privacy by Design: a New Standard Ensures
Consumer Privacy at Every Step**

(ISOC)

**Is your school making the most of digital
technologies for learning?**

(European Commission)

Endorse the Manifesto

(All Digital)

The consortium

