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# REPORT ON EXISTING INFRASTRUCTURES FOR INDUSTRY

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D.T1.1.3

Version 1

WPT1 Methodology and templates

07.2019

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## Objective

Work package 1 aims at providing a detailed description of the ecosystems for innovation of the participating regions. Particular attention will be given to the following aspects:

1. Economic and social structure of the region/area. The description of the underlying economic and social structure will be key to compare the potential evolution of the regions towards mature models of Industry 4.0 adoption based on the specificities of the territory and of its economic/industrial population;
2. “Species”. The WP aims at mapping the relevant actors that are currently engaged in efforts of industrial upgrading/industry 4.0 adoption and of those that might potentially be mobilized in the future.

What follows is a detailed explanation of how the forms prepared by the WP leader (Ca' Foscari University of Venice- Management Department - IT) are to be filled.

The scale of analysis is left to the single partner. For instance, when mapping policies, one partner organisation might find it meaningful to describe policies at the national, regional and local level. Given the diversity of the regions involved in the project, though, the relevant scale might be different. At the end of September 2019, after a first revision of the provided information, the WP leader will interact with each single partner to level and uniform the different templates.

Deadline for filling the forms:

September 15<sup>th</sup> 2019.

The forms will be filled locally (excel files) and uploaded in the project's platform and will be sent via email to the WP Leader Scientific Coordinator: [vfinotto@unive.it](mailto:vfinotto@unive.it).



## 1. Economic structure of the region

The first form (attached) aims at mapping the economic and social structure of the region, with a particular attention to data and figures that allows to assess the current readiness of economic operators in terms of digital transformation and industry 4.0 as well as to the indicators of potential evolution.

The form might be rapidly filled by disassembling at the regional level information that can be found on documents and reports such as the RIS.

What follows is a description of the information required.

### *a. Population*

Total population: the population of the region.

Population aged 20-24: number (absolute or %) of individuals belonging to the age cohort. The indicator provides information related to the potential demographic dynamism of the region.

Population over 65: number (absolute or %) of individuals belonging to the age cohort. The indicator provides information as to the potential fiscal pressure on the region itself and on the allocation of investments.

### *b. Education*

Population with tertiary (ISCED level 5 and 6) and post-secondary (ISCED level 4) level credentials: absolute figure or percentage of individuals who completed education programmes at the post-secondary or tertiary levels. The indicator provides an estimation of the endowment in terms of human capital of the region.

Population with secondary level credentials (ISCED level 3): see above, this time referred to secondary level credentials.

### *c. Economy*

GDP of the region (2018). The indicator provides an estimate of the performance of the region.

GVA of the region (2018). The figure provides an indication of the positioning of the region in the capture of value within the most relevant value chains and a gross indication of the quality of the current entrepreneurial/industrial fabric.

### *d. Labour*

Active population: absolute number (or %) of individuals actively participating in the labor market.

Employment: absolute number (or%) of individuals currently being employed in the region. The figure provides an indication of the current “health” and dynamism of the extant economic structure and of the good matching between human capital and economic structure (or lack thereof).

Unemployment: absolute number (or%) of individuals active in the labor market that are currently unemployed.

Growth rate of employment (% , year on year, presumably on 2018 data that will be available): the indicator provides an estimation of the “health” and dynamism of the region.



HRST: human resource in science and technology. Typically the figure is available in RIS and similar documents as a % of individuals aged 25/64 with tertiary level credentials employed in science and technology occupations. For an explanation and details, [check this page](#).

***e. Structural business indicators***

Number of local units in sectors: based on national or European statistics, each partner of the project will provide with the number of units (that is: single firms located in the region) articulated in the sectors present in the region. The level of depth depends on the available data, nonetheless the invitation is to identify the most relevant (in terms of GDP, Export and employment contribution) sectors in the region and provide these figures. In the excel, create as many lines as needed, one for sector.

Number of employees in sectors. Based on available statistics, each partner will provide a breakdown of the number of employees (or %) working in each sector present in the region. In the excel, create as many lines as needed, one for sector.

Average company size (employees). The indicator provides information related to the average number of employees the typical firm in the region has.

Number of high growth firms. High-growth enterprises are defined as as enterprises with an average annualised growth in the number of employees of more than 10% per year over a three-year period and at least 10 employees when the growth began. High-growth enterprises play an important role in contributing to economic growth and job creation.

% of firms introducing product/process innovation. The information is typically available in RIS and similar statistics. The indicator provides an estimation of the intensity of formal R&D in the region and of its outcomes.

% of firms introducing organizational strategic innovation. As far as the availability of the data check the previous point. The indicator provides information as to the innovative propension of firms belonging to sectors not typically characterized by a high intensity of formal R&D (e.g.: textile, food, etc).



## 2. “Species”

The second file (template “species”, attached) aims at capturing the most relevant institutions/entities and organizations involved in activities and initiatives that are related to the field of interest (industry 4.0, digital transformation, digitization of the industrial fabric of the region). Clearly, the selection of the institutions and entities, both private and public, depends on the sensitivity of each partner and on considerations related to the “real” impact of each entity/institution/firm on processes of Industry 4.0 adoption and diffusion.

Specific focus needs to be given to regional actors. National actors, though, need to be taken in consideration. We suggest to keep the data collection as free as possible and as inductive as possible: after gathering the results of the first wave of data collection in mid-september, the WP leader will compare the different reports and come back to each single partner with specific requests and calls for completion.

As far as the template is concerned, it is quite auto-explanatory. Nonetheless, what follows is a brief description of the content that is expected.

### ✓ **Name of the organization/entity**

The field needs to report the name of the organization/entity considered.

### ✓ **Typology**

The field needs to provide information on the type of organization. Classes and categories of actors will be created ex-post by the WP leader. As far as the data collection is concerned, each partner will fill the field freely (for instance: university, research center, T.T. organization, consulting firm ...). The suggestion is to give priority to the following actors:

1. Universities;
2. Post-secondary education institutions;
3. Research centers/institutions/labs, both private and public;
4. Technology transfer entities;
5. Private consultancies;
6. Technology providers;
7. Local startups, tech-related;
8. Public institutions/entities with stakes in (and performing activities related to) industry 4.0 (local level).

### ✓ **Link/online resources**

The present field requires to report links to online websites and pages reporting information on the entity. The more they are in English, the better.

### ✓ **Description**

For each institution/entity, each partner will provide a description of the entity itself and of its main activities (always referred to Industry 4.0). Information provided on the websites of the organization might be sufficient as a general introduction. More specific information (even if synthetic) on the type of activities performed in the entity (referred to industry 4.0) will be useful and appreciated (e.g.: they



host a test center for new technologies; they perform R&D activities on artificial vision; they educate professionals in mechatronics, etc).

✓ **Tech focus**

The field needs to answer to the question “does the entity focus its activities on specific technologies related to Industry 4.0?”. Please, report which ones.

✓ **Industry/VC Focus**

The field needs to answer to the question “does the entity focus its activities on specific industries and/or value chains (e.g.: automotive, textile, food, etc)?”.

✓ **Local linkages**

Using mainly secondary data and data already available to each partner, the field needs to be filled with information regarding the partnerships/collaborations of the partner with other regional/national entities. Websites of the entities will provide with information related to this point. The idea here is to collect information to reconstruct the networks of collaboration of each entity in the region.

✓ **Global/Int'l linkages**

Similar to the previous point, the field needs to be filled with information related to international linkages.

✓ **Main actors (persons)**

The field needs to be filled with information (e.g. name, surname and contact page) of relevant figures in the entity. The idea here is to develop an agenda for the second part of the WP which will consist of personal interviews to key actors and of the reconstructions of the relevant ego networks in the region.

✓ **Stakeholders/clients**

The field is to be filled with information related to stakeholders and main clients of the entity. Stakeholders are either institutions (public and private) investing, having a stake, having an interest in the activities of the entity; clients are entities (firms, organizations public and private) expecting products/services from the focal entity, typically via transactions.

✓ **Figures (e.g. funds, student intake, n. of researchers, etc)**

The field is to be filled with synthetic information related to the most relevant figures of the entity, e.g. turnover, employees, number of patents, number of students, number of researchers, etc. Discretion is let to all the partner: the WP leader will perform additional analyses in September to fill the eventual voids and gaps.

✓ **Success Stories/references**



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The field will provide with synthetic information (and related links to online resources) providing a picture of the main results/references/success cases and case studies related to the outcomes of the activities of the entity.



### 3. “Policies”

The third file (template “policies”, attached) aims at capturing the most relevant policies and initiatives related to Industry 4.0 (especially concerning SMEs, but not limited to these kinds of companies). These policies may involve, for instance, incentives to companies who adopt digital technologies, specific training programs, workshops, other projects related to these topics, etc. We suggest reporting the initiatives that have the highest relevance in terms of their scope and/or results achieved. The policies considered can be at both regional and national level, though specific focus needs to be given to local initiatives.

The template includes:

**a. Title**

Please state the name of the initiative/program/specific policy you are referring to.

**b. Links and resources**

Please indicate the relevant website, database, or documents where information about the initiative can be found.

**c. Duration**

Please report if the initiative is/was done for a limited period of time (indicate beginning and end date), is still ongoing, or does not have a time limit.

**d. Level (national, regional, local)**

Please indicate whether this is a national/regional/sub-regional (for instance, something done by specific municipalities) initiative.

**e. Main actor/Actors involved**

Please state who are the main actor(s)/institution organizing the initiative, and which actor(s) the initiative is addressed to.

**f. Funding**

Please state how much funding has been devoted to these initiative/is granted to the initiative’s stakeholder.

**g. Stage of support (e.g.: lifecycle of tech/firm)**

Please indicate whether the policy/initiative is addressed to a specific type of firm or institution (e.g., startup, SME, scale-up, established firm) or specific technologies related to Industry 4.0 or digitalization.

**h. Description (text)**

Please provide a brief description of the initiative.

**i. Tech Focus**

Please indicate whether the policy/initiative is addressed to firms or institutions adopting specific technologies related to Industry 4.0 or digitalization.



***j. Industry/value chain focus***

Please indicate whether the policy/initiative is addressed to firms or institutions operating in a specific industry, or which occupy specific positions within their industry's value chain (for instance, subcontractors, or technology providers, or final users).

***k. Results (aimed)***

Please indicate which expected results the policy/initiative was aimed at achieving, as indicated by, for instance, the motivation behind the initiative.

***l. Results (obtained)***

Please indicate (whenever possible) which results were obtained from the policy/initiative, in relation to the objectives stated in the above point.

***m. Success Stories/cases***

Please provide (whenever possible) synthetic information and links to online resources about providing the success cases and case studies related to the outcomes of the policy.