



# WP.T1\_CONTEXT ANALYSIS

## A.T1.1\_RESEARCH ACTIVITIES

D.T1.1.3\_Report on innovative technologies,  
managerial models and practices that could be  
applied to WISEs

Version 2

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# 1. INTRODUCTION

## 1.1. Summary

The present deliverable addresses the innovative technologies, managerial models and practices that could be applied to WISEs. The present document is based on several studies. It draws on (a) regional in-depth study reports conducted by project partners; (b) the Research on ICT tools applicable for WISEs produced by PP ITC; (c) on the the benchmarking document prepared by Fondazione Politecnico di Milano. The deliverable is organised in the sections addressing:

- **Innovative technologies:** The section entails the identification of (a) the existing ICT knowledge, skills and tools, which WISEs typically apply and report no major issues in this regard; (b) the technologies that have been identified as needed but not available due to different reasons; (c) the technologies that have been identified through our additional inquiries but are less known to WISEs representatives
- **Managerial models:** (a) we briefly identify the most typical managerial models and practices used by WISE and (b) we emphasise the models that have been demonstrated as the most successful and can thus be more broadly applied by the WISEs
- **Good practices:** we summarise a selection of good practices linked to education, marketing, products and services.

## 1.2. Introduction to context and deliverable contents

We live in the era of the digital revolution encompassing all areas of human activity. Digital transformation is an aspect of the information society as a successor of both the classical industrial society and its post-industrial extension.

In the field of entrepreneurship, these shifts have not only affected the technological aspects but also the managerial models and everyday practices regarding production and services. They imply “change in leadership, different thinking, the encouragement of innovation and new business models” [1]. The organisations following the trends of digitalisation achieve better results in terms of market performance, generating innovative products and services, attracting new customers, partners and stakeholders, collaborating with different suppliers, and nevertheless, improving the experience of the employees. The latter is of particular importance for WISEs, since they should be committed to their social mission, high ethical standards, including the benefits for their employees and other stakeholders. On the one hand, these shifts have contributed to new aspects of social exclusion in terms of the digital gap or can generate fears for people losing their jobs. On the other hand, they can be a major opportunity for the WISEs as a key advantage, providing a major potential for integration of the vulnerable groups and increasing WISEs competitiveness in the markets.

The deliverable addresses innovative technologies, managerial models and practices that could be applied to WISEs in order for them to become more successful and competitive on the market. ICT is becoming increasingly important for establishment and effectiveness of social entrepreneurship. It is important to understand that ICT represents an added value for building and sustaining of social enterprise’s competitiveness as well as an important tool for business strategy [45]. Freeman and Freeman [46] stress that with the evolution of ICT and the recognition of the humanity of individuals with disabilities, we are coming to a time of inclusion of all within our society. Through the utilization of ICT, the individuals with disabilities gain a sense of self-worth and self-determination; and society gains through a more satisfied population and a more diverse and inclusive business sector [46].

Certain ICT solutions can be applied rather generally to a broad variety of business processes and types of work in a broad variety of organisations. Others can be rather specific. They can either be used for a variety of tasks in different use areas (horizontally) or be specialised only for a specific area (vertically). Moreover,

they can be relevant for all SMEs and other organisations operating in a given sector, or specifically relevant for WISEs, being adopted for the particular needs of the vulnerable groups. To focus our report more clearly, beside some generally applicable technology, our major attention goes to the sectors of agriculture, tourism, waste management and selected manufacturing activities including handcrafting, as we have identified them as typical for WISEs.

The present document is based on several studies.

- Firstly, it draws on regional in-depth study reports conducted by project partners. In that regard, the particular advantages of managerial models, business strategies, marketing skills and technological tools are emphasised. The results of the regional studies have revealed quite similar advantages and good practices in operating WISEs in all participating region.
- Secondly, it takes into account the Research on ICT tools applicable for WISEs produced by PP ITC. The research represents the internet research on the solutions and ICT tools that can help WISEs with digital transformation and increasing the competitiveness by integration of ICT tools into the processes within their organizations. It also covers scope of tools, identifying, describing and positioning of horizontal tools and IT solutions as well as some of the vertical tools in the fields of agriculture and waste management. There have been identified and described 7 different product use areas and 31 different tools mapped into those areas. Research also touches the analysis of the latest trends and potential fields for the future development and implementation of new technologies in the upcoming years.
- Thirdly, it draws on the benchmarking document prepared by Politecnico di Milano - METID. The document is focused on tools (first part: “Online hubs and services”) and on online open courses (second part: “MOOCs”) available on the net.

The deliverable is organised in the sections addressing:

- Innovative technologies: The section entails the identification of (a) the existing ICT knowledge, skills and tools, which WISEs typically apply and report no major issues in this regard; (b) the technologies that have been identified as needed but not available due to different reasons; (c) the technologies that have been identified through our additional inquiries but are less known to WISEs representatives
- Managerial models: (a) we briefly identify the most typical managerial models and practices used by WISE and (b) we emphasise the models that have been demonstrated as the most successful and can thus be more broadly applied by the WISEs
- Good practices: we summarise a selection of good practices linked to education, marketing, products and services.

## 2. INNOVATIVE TECHNOLOGIES

### 2.1. ICT knowledge, skills and tools: in general and applied in WISEs

Nowadays, a definition ICT includes unified communication technologies and it refers to the integration of telecommunications, computers, middleware and the data systems that support, store and transmit UC communications between systems [47]. In business environment, ICT can be used in different areas.

In business, it can be used for:

- Recording Data, Storing data, Manipulating data and Retrieving data.

ICT is therefore used in [48]

- Administration- Invoices, Communication, Emails

- Business, Finance and Accounting- Business Plans, Financial forecasting, Auditing, Market Analysis, Research, Recording Transactions
- Communications- email, instant messages, mobile phones
- Engineering and Creative Art- 2D and 3D Drawing, Modelling, Simulation
- Wildlife and Tourism and Hospitality- Animal Tracking, Hotel booking, GIS

Technological components refer to hardware and software. Within the letter, we can distinguish between application software and system software. An important role is played by internet enabling e-mail communication and e-commerce.

It has been shown that three primary processes are enhanced in e-business [48]:

- Production processes, which include procurement, ordering and replenishment of stocks; processing of payments; electronic links with suppliers; and production control processes, among others;
- Customer-focused processes, which include promotional and marketing efforts, selling over the Internet, processing of customers' purchase orders and payments, and customer support, among others; and
- Internal management processes, which include employee services, training, internal information-sharing, video-conferencing, and recruiting.

According to Research on ICT tools applicable for WISEs [2], there are 8 different product use areas for which we can map as separate existing ICT tools that are already available on the market and are widely recognised and commonly used. Some of the mapped tools are very extended and could fit into multiple different product use categories, and in this case they are put into the area which they are usually used for.

Table 1 presents mapping of the tools, while Table 2 presents its functionalities. Most of the tools are advanced and could fit into multiple product use areas, as they are supporting many different key functionalities.

Table 1: Mapping of product use areas and identified ICT tools

Information system tools	Management support	Internal processes	Document management and sharing	E-learning and dissemination	Business intelligence	Product and services support	Other
Office365	Trello	SAP ERP	Google Drive	Moodle	Tableau	Farm Manager	Google Analytics
LibreOffice	Basecamp	Odoo	Dropbox	Adobe Connect	Pentaho	eVineyard	Wix
Google Docs	Podio	ERPNext	Microsoft OneDrive	GoToWebinar	Sisense	Wastebits	
Mozilla Thunderbird	ProofHub		SeedDMS				
	Bitrix25						
	Zoho						
	Slack						
	Plum						
	Breezy HR						

Source: [2]



Table 2: Mapping of key functionalities and tools supporting them

	Documents	E-mail	Project management	Task management	Time tracking	HR Management	Social Media Management	Communication & Collaboration	Workflow manag.	Finances & invoicing	Quality management	CRM	Product Planning	Warehouse Management	E-learning	Business intelligence
Office 365	•	•	•					•								
LibreOffice	•															
Google Docs	•	•						•								
Mozilla Thundrb.		•														
Trello	•		•	•												
Basecamp	•		•	•				•								
Podio			•	•	•			•		•						
ProofHub			•	•	•	•										
Bitrix24		•	•	•		•	•	•		•		•				
Zoho	•	•	•	•	•	•	•	•				•		•		
Slack	•							•								
Plum						•										
Breezy HR						•		•								
SAP ERP					•	•			•	•	•	•	•	•		•
Odoo			•	•	•				•	•		•	•	•		
ERPNext			•	•		•			•	•		•	•	•		
Google Drive	•															
Dropbox	•															
Microsoft OneDrive	•															
SeedDMS	•							•								
Moodle	•														•	
Adobe Connect	•							•							•	
GoTo Webinar															•	

Source: [21]

- **SaaS model.** SaaS is an abbreviation for »Software as a Service« and means that tools is distrubited in a model in which a third-party provider (vendor) hosts applications and makes them available to customers over the internet. SaaS removes the need for organizations to install and run applications on their own computers or in their own data centers. This eliminates the expense of hardware acquisition, provisioning and maintenance, as well as software licensing, installation and support. Other benefits of the SaaS model include flexible payments, scalable usage, automatic updates and accessibility. But SaaS also poses some potential disadvantages. Businesses must rely on outside vendors to provide the software, keep that software up and running, track and report accurate billing and facilitate a secure environment for the business' data. Providers that experience service disruptions, impose unwanted changes to service offerings, experience a security breach or any other issue can have a profound effect on the customers' ability to use those SaaS offerings. As a result, users should understand their SaaS provider's service-level agreement, and make sure it is enforced. [39 in 2].
- **IaaS model (Infrastructure as a Service):** in this model, provider (usually cloud based) hosts all the neccessary infrastructure components that are usually present in an on-premises data center, including servers, storage and and other relevand hardware, together with the possibility to do the virtualization.IaaS provider also supplies a range of services to accompany those infrastructure components. These can include detailed billing, monitoring, log access, security, load balancing and clustering, as well as storage resiliency, such as backup, replication and recovery. These services are increasingly policy-driven, enabling IaaS users to implement greater levels of automation and orchestration for important infrastructure tasks. For example, a user can implement policies to drive load balancing to maintain application availability and performance [40 in 2].
- **PaaS model (Platform as a Service):** model in which vendor ensures a platform, environment and all required conditions for the developers to be able to build applications and services over the internet. PaaS services are usually hosted in the cloud and can be accessed over the internet browser.
- **Blockchain** is a type of distributed ledger (a book of collections) for maintaining a permanent and tamper-proof record of data, applications and smart contracts. A blockchain is represented as a decentralized database that is managed by computers (nodes) that make up the blockchain and operate it. Every node has aopy of the whole blockchain and together they create a powerful second-level network, a wholly different vision for how the internet can function. This principle prevents single point of failure and enabled decentralisation. Industries in which blockchain applications can be applied are banking, supply chain management, forecasting, networking & internet of things, insurance, voting.





government, healthcare and any other industry that finds distributed ledger and centralized operation suitable and beneficial [41 in 2].

- **IoT** (Internet of things): a network of physical devices of different kinds such as sensors, vehicles, home/office appliances or any other items containing sensors or electronics. Each of this »things« can be iniquely identified in the network and can inter-operate within existing internet ingrastructure. This can bring to the improved efficiency, better accuracy and positive economic impact of the technology supported tools and services, to the industry and community.
- **Smart manufacturing & Industry 4.0:** Smart manufacturing (SM) is a technology-driven approach that utilizes Internet-connected machinery to monitor the production process. The goal of SM is to identify opportunities for automating operations and use data analytics to improve manufacturing performance [42 in 2].
- **Smart cities** and communities: A smart city is a municipality that uses information and communication technologies to increase operational efficiency, share information with the public and improve both the quality of government services and citizen welfare [43 in 2].

WISEs most often operate on the level of small and micro enterprises. For that sector, ICT has turned out to be especially important. It has been shown [49] that ICT enables new business opportunities, cuts of costs by improving internal working processes, enables better and more efficient communication with customers, enhances promotion and distribution of product through on-line tools. Thus, it increases the efficiency not just of business systems but also business practices. According to the World Bank Report, [50, pp.64], enterprises that use ICT are more productive, more profitable, they invest more and also grow faster.

While WISEs use some of these typical tools, they are still predominantly limited to some of the products and functionalities.

Based on our surveys and interviews, the ICT, most typically known and used by WISEs, covers the following aspects:

- Office managements tools, including word processors, spreadsheets, e-mail and similar software:
- Financial management tools
- Collaboration tools, especially for internal collaboration
- Among the marketing related tools, the ones for communication with customers are most broadly used.

Interviews also indicate that there are substantial differences between WISE regarding the extend, to which the ICT are used in working environment. We can distinguish between two groups of WISEs:

- the ones who support ICT and encourage implementation of ICT into different areas of working process. They are following ICT trends
- the ones who do not see important advantages in ICT tools. This can be either because there is a substantial lack of awareness among their managers what actually exists and what are the benefits of ICT, or because they consider their work to be too simple to acquire such tools. The latter is especially associated with vulnerable groups.

In the first group, there are different ICT tools they use. For instance:

- ICT for archiving
- ICT for accounting
- ICT for managing projects



- ICT for support and production
- ICT for logistic
- ICT for commerce.

This can also be exemplified by a successful Slovenian WISE whose representative reported that they strongly encourage the use of ICT in all areas of WISE functioning. They emphasized the need for ICT in optimizing work process using:

- Birokrat - ICT for accounting
- combination of HRM and CRM
- Control Plus - ICT for logistic
- Google Analytics
- ICT e mail, FB
- SquadMail
- TeamViewer
- WooCommerce

All WISEs nevertheless use at least some tools for networking, such as Google docs, dropbox, on-line shops, etc., and for marketing, mostly using Facebook, but also skype, Viber, chat rooms.

## 2.2. ICT tools that can be applied to WISEs

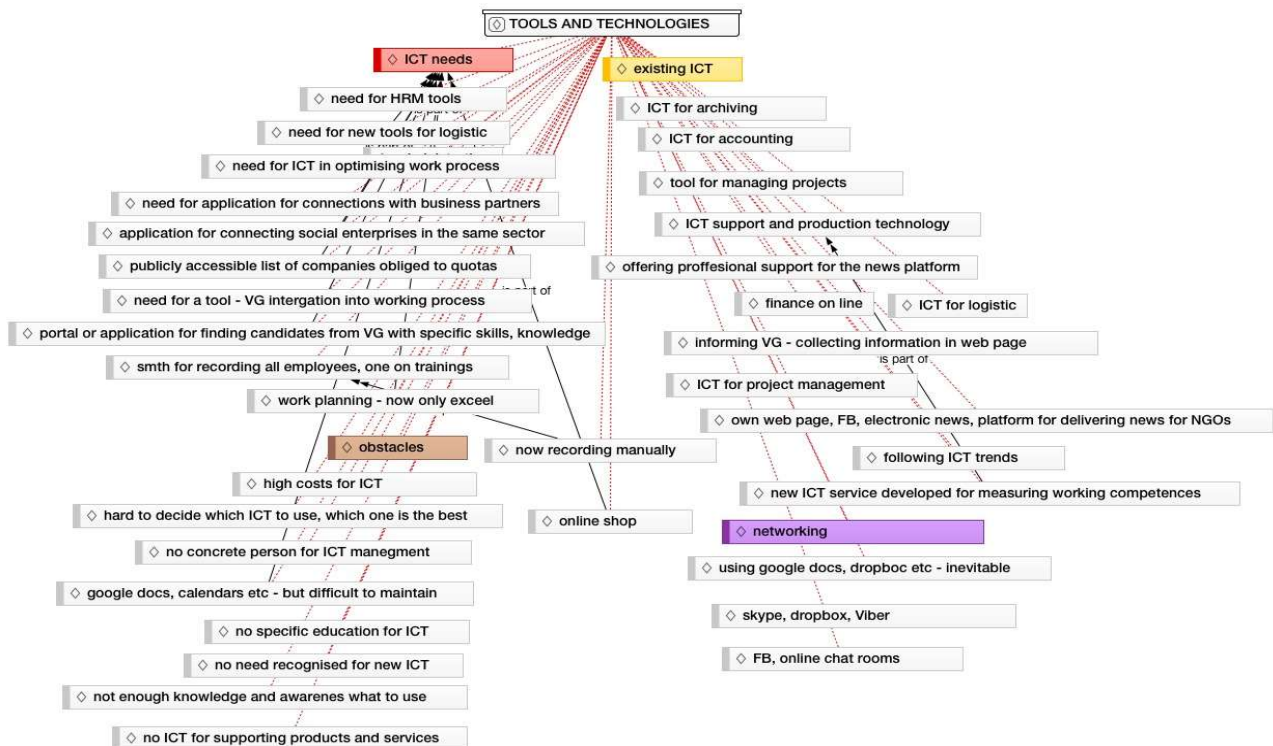
Based on the in-depth studies, including the surveys, interviews and stakeholders' meetings, we can identify the tools that are recognised by WISEs as needed but not available, and the tools that are quite commonly unknown to WISEs. It has also become clear that the major obstacle in integrating ICT in the WISEs working processes and performance is the lack of knowledge and awareness what to use and the difficulties in deciding what ICT to use: i.e. which one is the best in terms of optimal results. This was also linked to the major problem of affordability related to the costs that are often high, making the decisions even more difficult or even virtually impossible.

The following figure illustrates the situation on the existing ICT, the ICT needs and obstacles - as derived from the interviews.<sup>1</sup>

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<sup>1</sup> The figure is based on the Slovenian case. However, in line with the comparative analysis of all in-depth studies and the joint discussion between all partners at the meeting in Katowice, 17-18 January 2018, it has been concluded that the same model can be applied to provide the general picture.

Figure 1: Existing and needed ICT



The key needs, identified through the interviews, the surveys and the stakeholders' workshops, included:

- HRM tools
- project management,
- E-learning tools
- E-Commerce tools and marketing tools beyond the widely used communication and promotional tools
- collaboration tools
- workflow management
- evaluation tools
- specific tools addressing the needs of the vulnerable groups.

The Figures from 2 to 16 present the survey results in the participating regions showing the availability and familiarity with the key ICT tools in the WISEs. In particular, they indicate, which tools are identified as needed but not available, and which are not even known to the WISEs representatives.

Figure 2: Managerial and leadership ICT support systems and tools: Slovenia

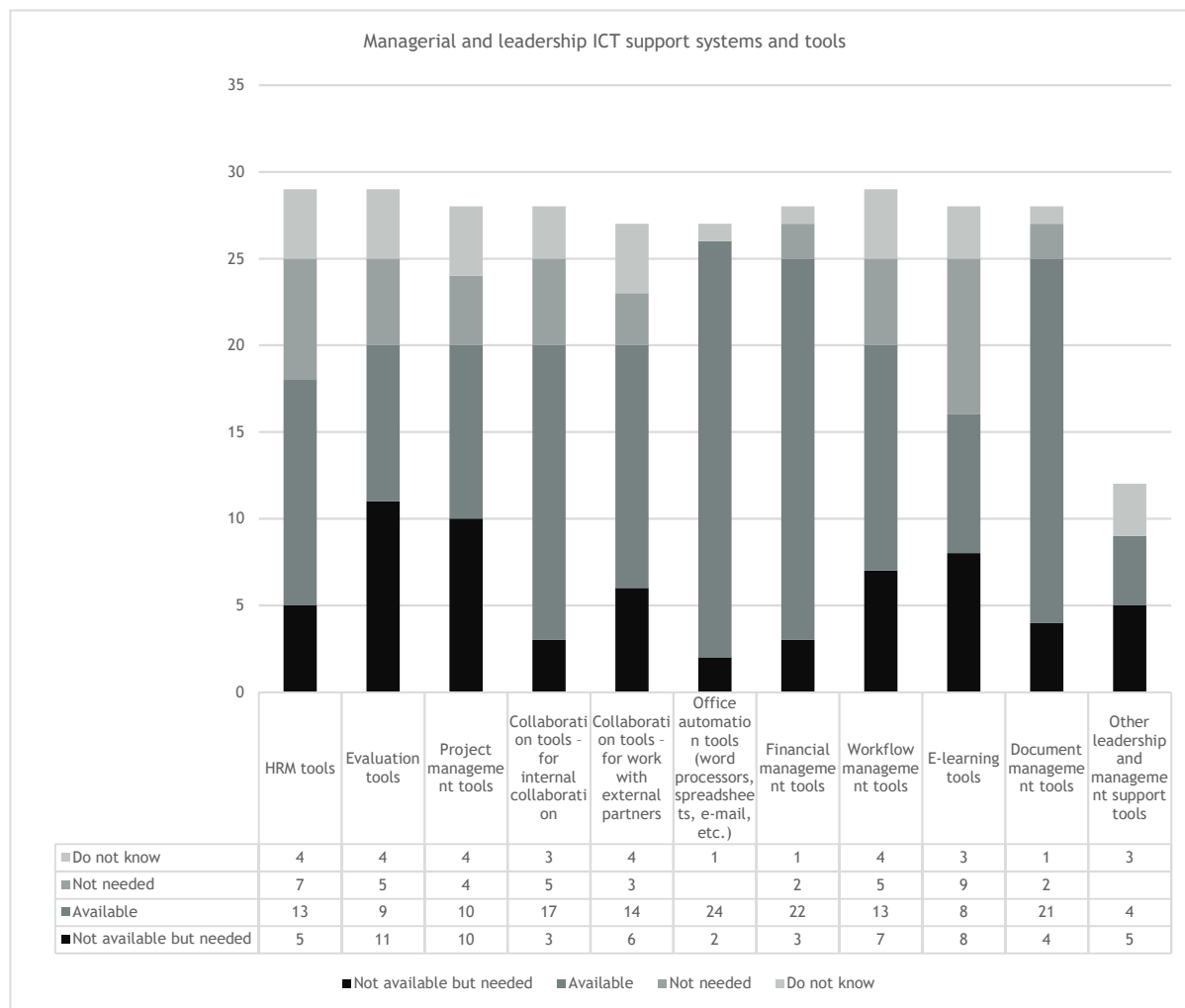


Figure 3: Availability and need for management related ICT - Croatia

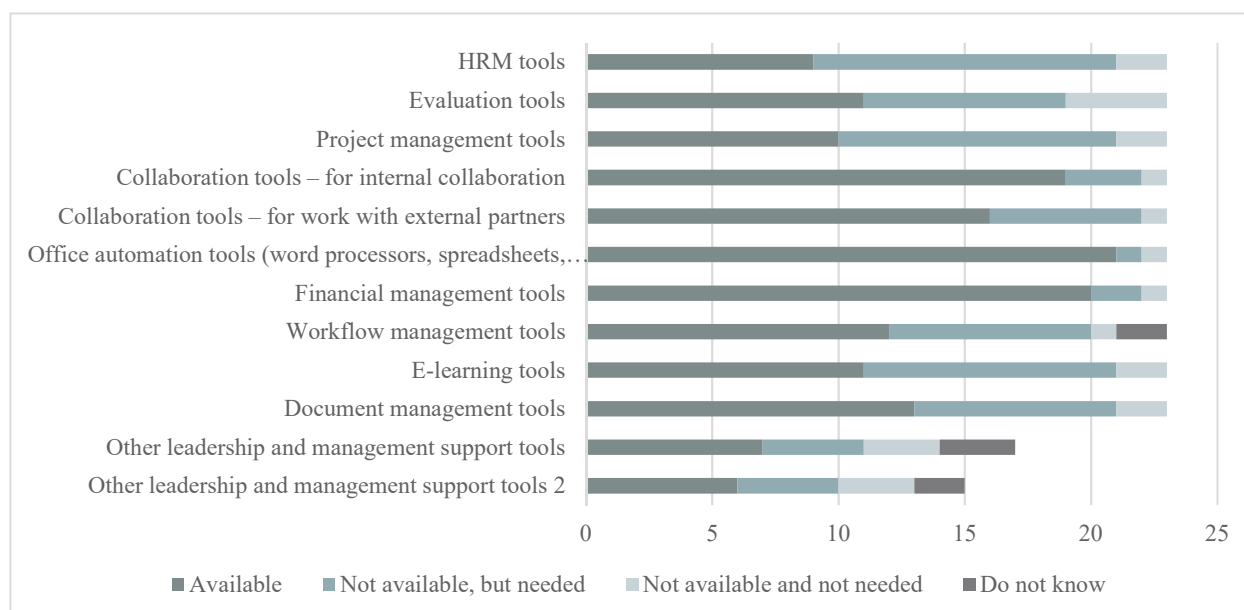


Figure 4: Managerial and leadership ICT support systems and tools - Lombardy

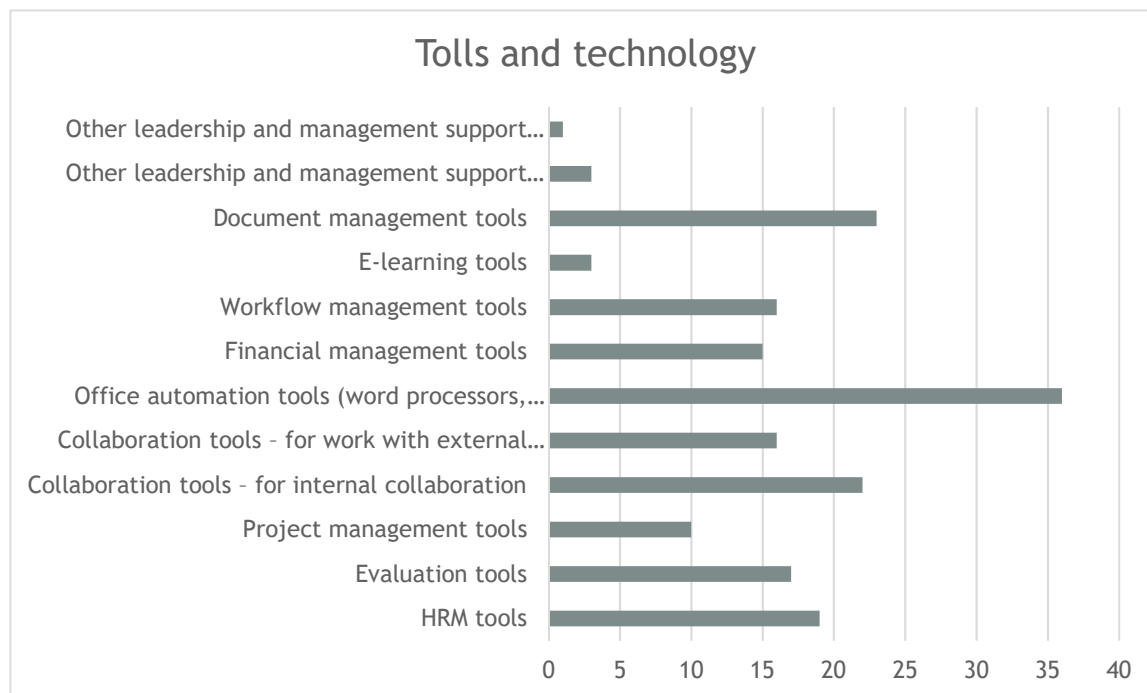


Figure 5: Availability and shortages regarding management related ICT - Lombardy

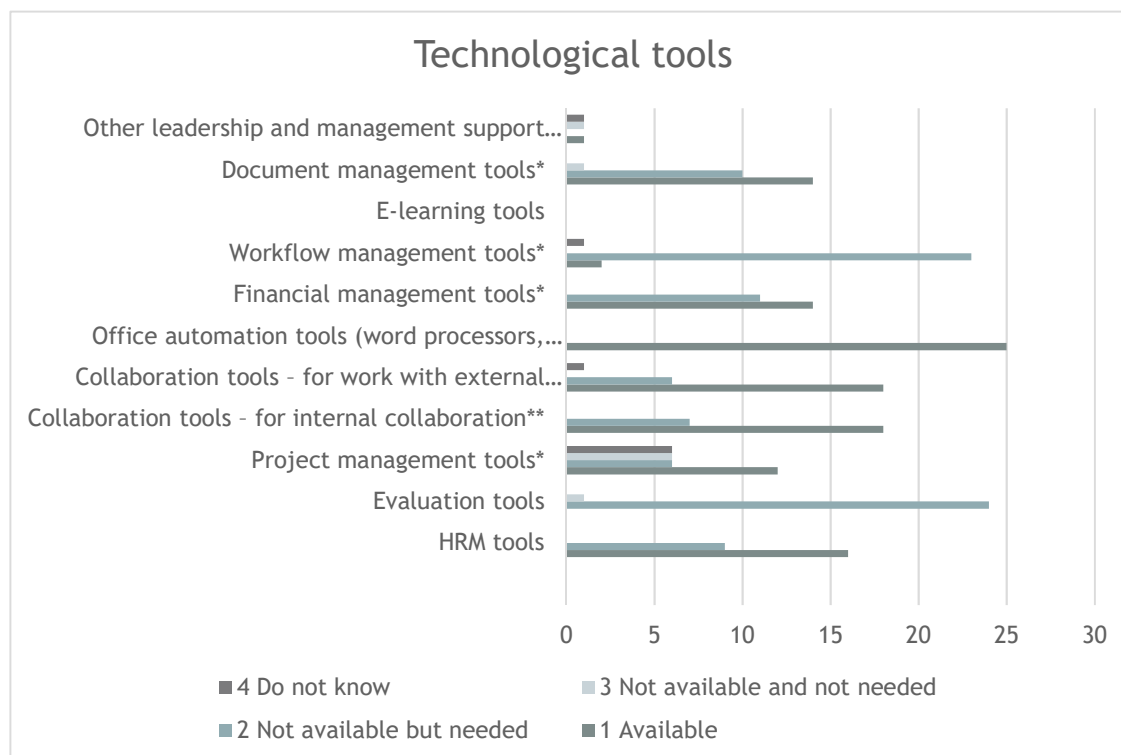


Figure 6: Availability and shortages regarding management related ICT - Trentino

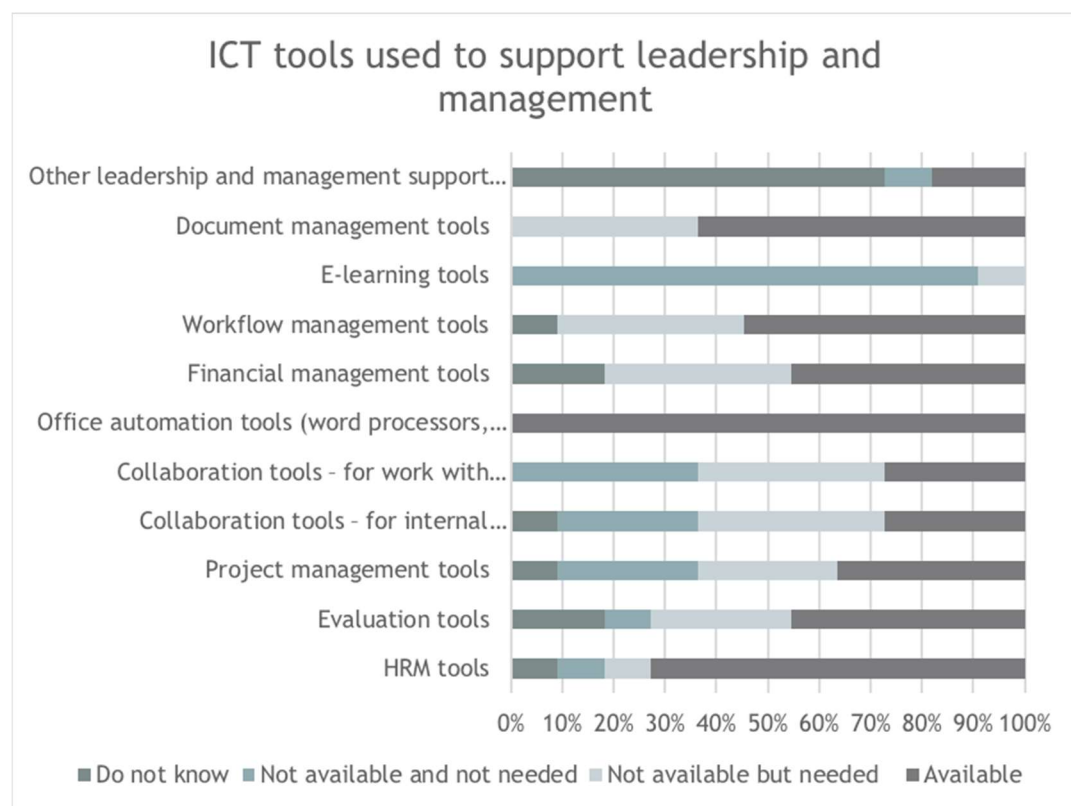


Figure 7: Availability and shortages regarding management related ICT - Poland

## Needs and availability of leadership and managerial ICT support systems or tools

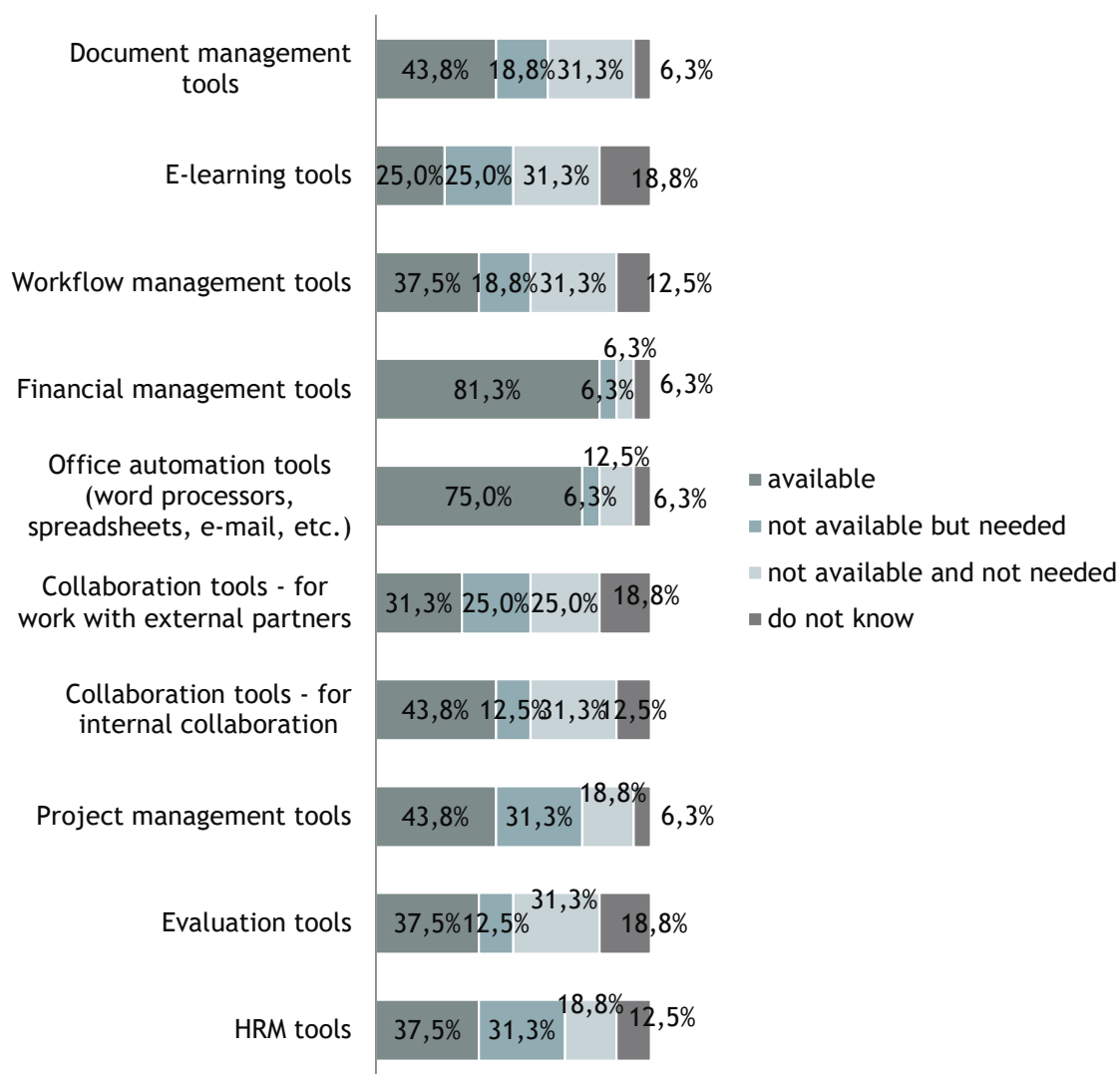


Figure 8: Marketing ICT support systems and tools - Slovenia

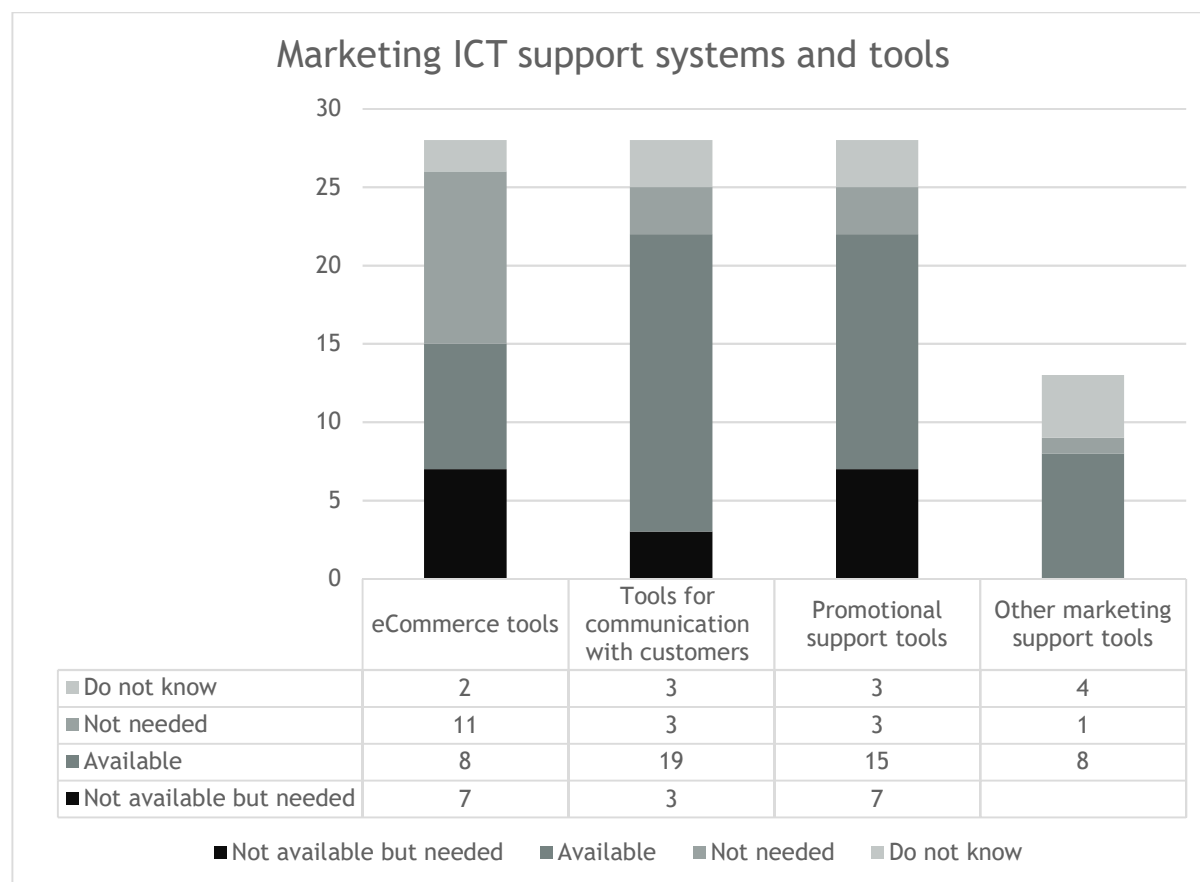


Figure 9: Availability of and need for marketing related ICT - Croatia

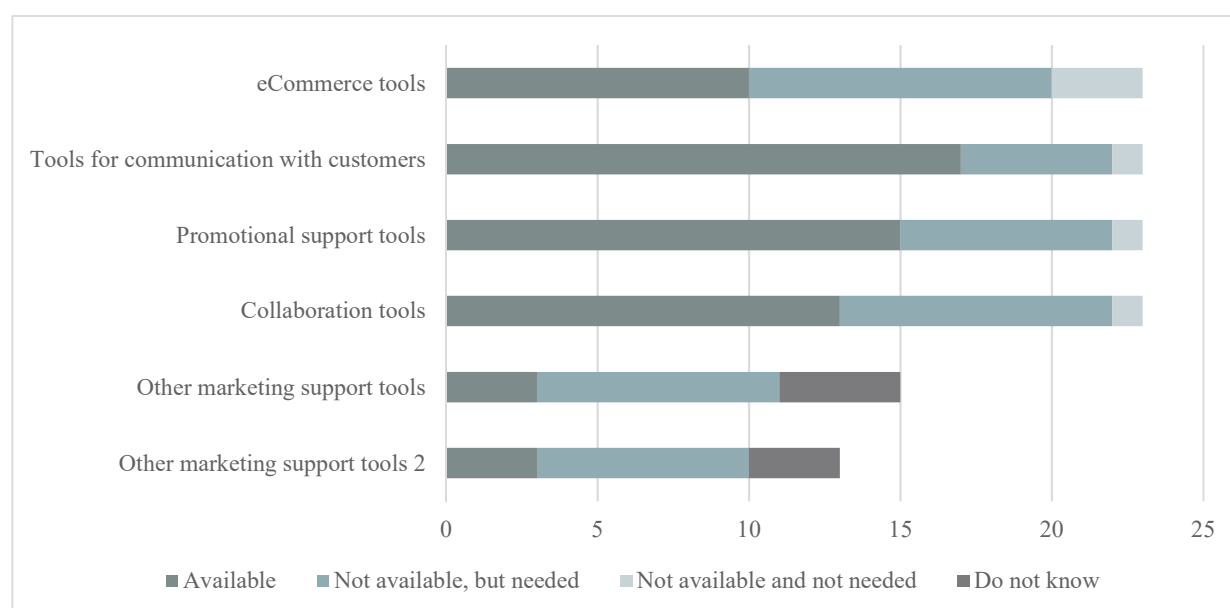




Figure 10: Marketing ICT support systems and tools - Lombardy



Figure 11: Availability of and need for marketing related ICT - Trentino

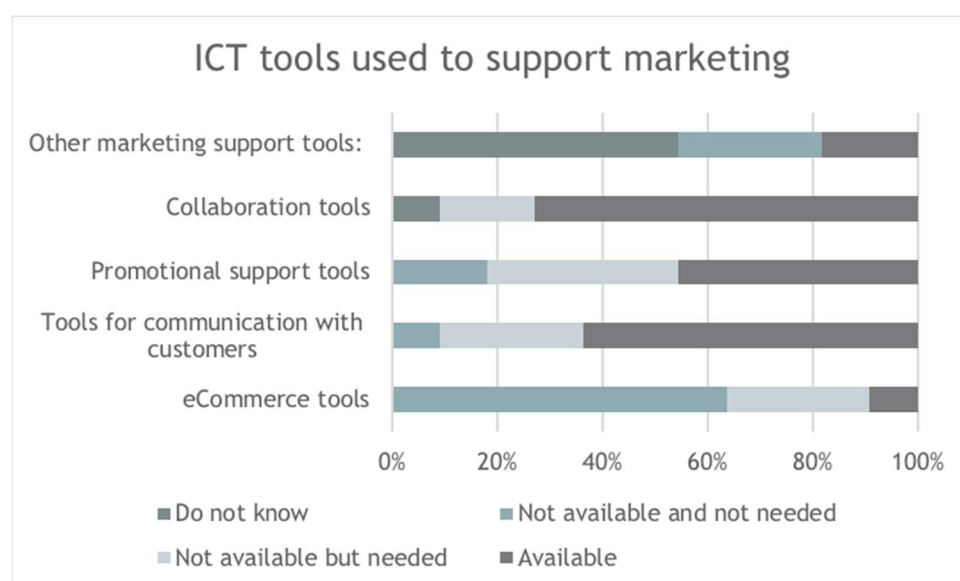


Figure 12: Availability of and need for marketing related ICT - Poland

## Needs and availability of marketing ICT support systems or tools

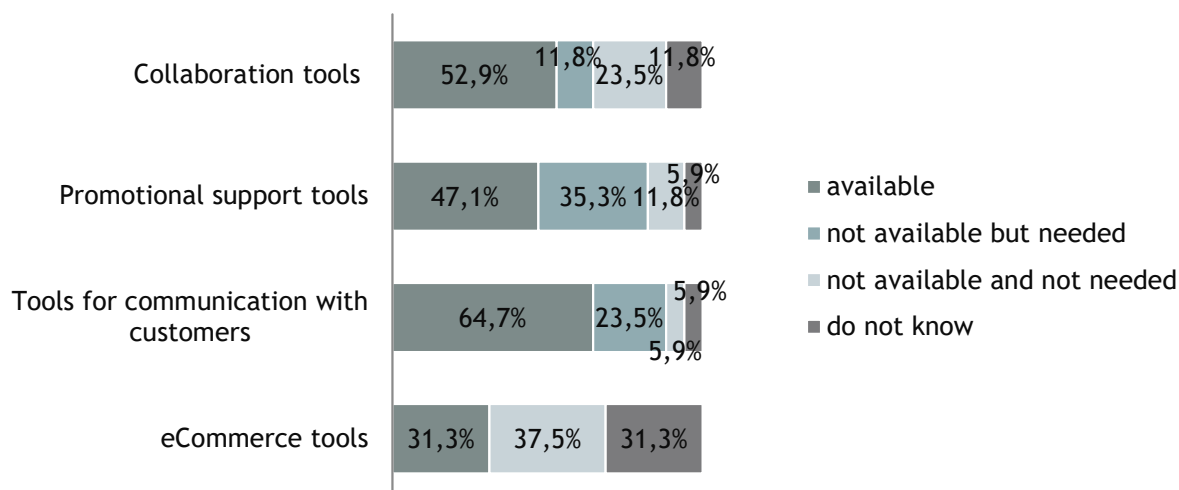


Figure 13: Production and service ICT support tools - Slovenia

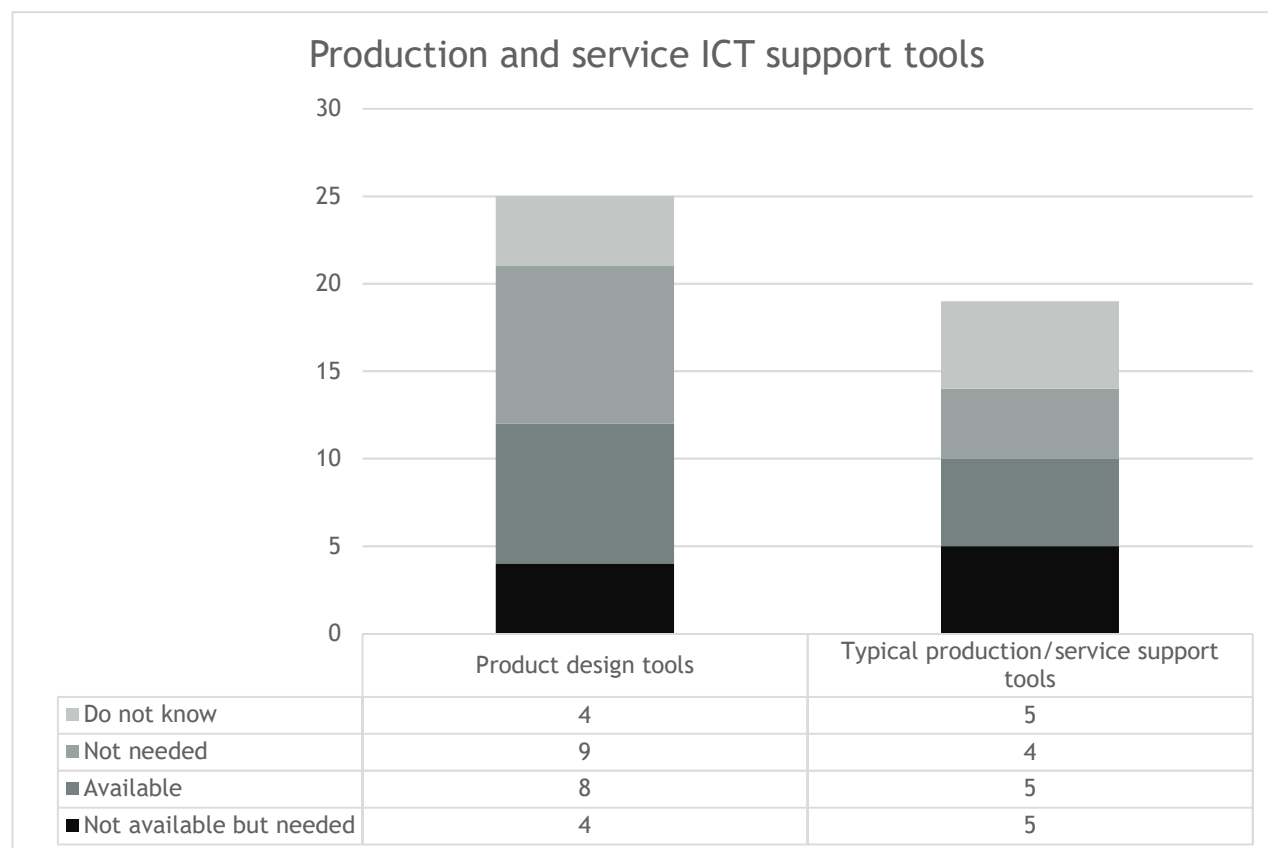


Figure 14: Availability of and need for product and service related ICT - Croatia

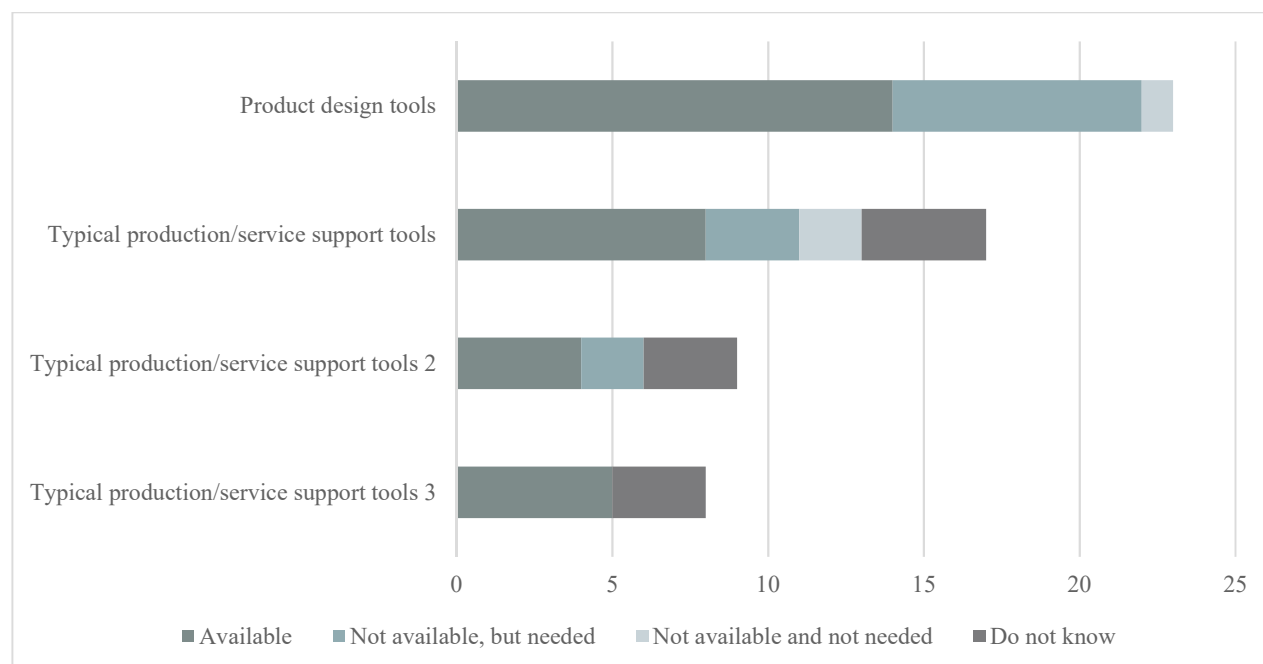


Figure 15: Availability of and need for product and service related ICT - Trentino

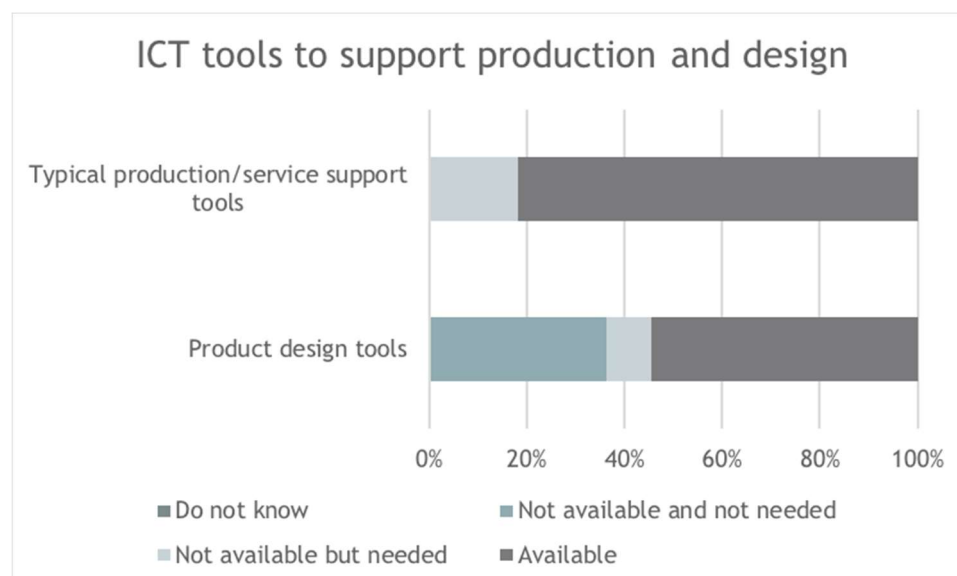
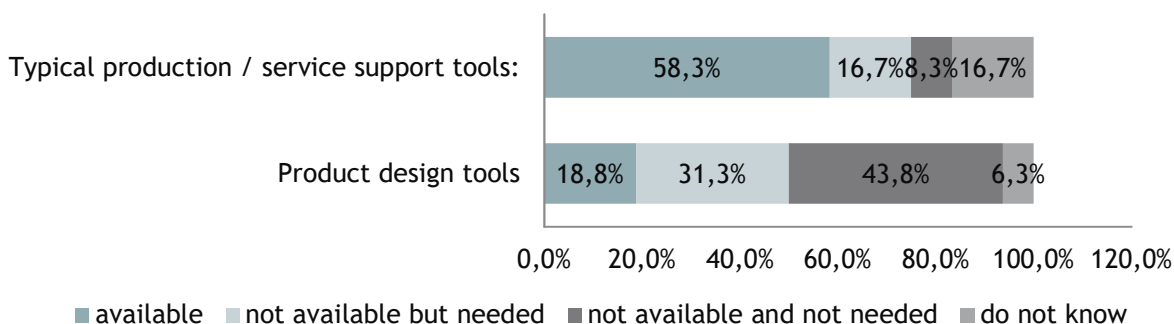


Figure 16: Availability of and need for product and service related ICT - Poland

### Needs and availability of product and service ICT support systems or tools



In the following text, we address the key ICT tools recognised by WISEs representatives as needed but unavailable and/or insufficiently known. The ICT that can be applied to WISEs is categorised into [2]:

- Management support systems: products and tools that are helping organisations with management of all kind of processes that have effect on the preparation, execution and evaluation of projects, collaboration and interaction with clients and/or stakeholders on projects, HRM.
- Internal process support: products and tools that are helping organisations with planning, management, tracking and evaluation of different kinds of internal processes such as workflow management, product design, warehouse management, and others.
- Promotional tools, especially in terms of tracking the results of promotional activities
- E-learning and dissemination: tools and digital platforms that are enabling whole process of online learning, from authoring and creation of educational content, to taking the courses and sharing the knowledge.
- Product and services support systems and tools: sector specific tools focusing on specific tasks from sector such as agriculture, tourism, manufacturing etc.
- Other tools and systems that can be used in the WISEs: any other type of tool or software that can help work integration social enterprises with digital processes, and does not fit into any of other mentioned categories.
- Specific tools addressing the needs of the vulnerable groups.

### 2.3. Management support systems

Based on our findings described above, we have selected the following management support systems and their descriptions from the Research on ICT tools applicable to WISEs [2]:

- **Project management (PM):** the discipline of using established principles, procedures and policies to manage a project from conception through completion. Project management oversees the planning, organizing and implementing of a project. A project is an undertaking with specific start and end parameters designed to produce a defined outcome, such as a new product or service. [3 in 2]
- **Task management:** Task management is the process of managing a task through its life cycle. It involves planning, testing, tracking and reporting. Task management can help either individuals achieve goals, or groups of individuals collaborate and share knowledge for the accomplishment of collective goals. [4 in 2]



- **Time tracking:** Time tracking is simply the measurement and documenting of hours worked. With technology businesses can also track additional data such as efficiency and employee productivity. From project management methodologies and accounting systems to our collaboration and communication processes, time tracking can allow businesses and employees to be productive at unprecedented levels. [5 in 2]
- **Human Resources management (HRM):** The process of hiring and developing employees so that they become more valuable to the organization. Human Resource Management includes conducting job analyses, planning personnel needs, recruiting the right people for the job, orienting and training, managing wages and salaries, providing benefits and incentives, evaluating performance, resolving disputes, and communicating with all employees at all levels. Examples of core qualities of HR management are extensive knowledge of the industry, leadership, and effective negotiation skills. Formerly called personnel management [6 in 2].
- **Collaboration:** Collaboration is where two or more people or organizations work together to realize or achieve something successfully [7 in 2].

The following tools and solutions have been identified and described: Trello, Basecamp, Podio, ProofHub, Bitrix24, Zoho, Slack, Plum, BreezyHR.

### 2.3.1. Trello



#### Description

Trello is an online tool that helps teams collaborate and manage work and projects. It organizes projects into the boards and manages what is being worked on, who is working on what and where is it something in the process. In addition to that, it also allows management of documents and attachments, creating lists and notifications. Tool is completely web based with possibility to access the boards from mobile and tablet devices. [8 in 2]

#### Key features

- Project and tasks management
- Document sharing
- Notifications

#### Pros

- Access from all devices
- Lightweight
- 3rd-party integrations with other IT tools
- Simple and very visual

#### Cons

- Less powerful than traditional project management software (f.e. no Gantt charts)
- No time tracking possible

#### Pricing model

Tool is available on the monthly based subscription model, with 3 different plans: Free (unlimited projects, boards, tasks, members), Business Class (Free + advanced integrations and higher security) and Enterprise (Business Class + highest security + support).

### 2.3.2. Basecamp



#### Description

Basecamp is project management and team communication software that helps teams stay on the same page. Being not so much a traditional project management tasks (e.g., resource planning and long-term scheduling) it offers to-do-lists, calendaring, due dates and file-sharing. It's goal is to provide teams a way to keep track of priorities and actionable items. It is web-based tool accessible from all devices. [9 in 2]

#### Key features

- Chat / Messaging
- Cooperative Writing
- Discussion Boards
- Document Management
- Group Calendars
- Project Management
- Task

Management

#### Pros

- Fair, flat monthly price
- Support integration with other apps and services

#### Cons

- Instant messages too compartmentalized
- Weak reporting options

#### Pricing model

Tool is available on the monthly based subscription model, with 2 different plans: Free for teachers and students and \$99/months for business for unlimited users and projects, with the possibility of 10% discount for non-profit organisations and charities.

### 2.3.3. Podio



#### Description

Podio is a cloud-based collaboration service that was founded in 2009 and acquired by Citrix in 2012. Podio is an extremely flexible and highly customizable online hub for work and communication that is user friendly and scales easily for growing businesses. Podio supplies a web-based platform for organizing team

communication, business processes, data and content in project management workspaces. Users can also select business "apps" from an online app store or build their own according to project needs. [10 in 2]

#### Key features

- Issue Management
- IT Project Management
- Milestone Tracking
- Portfolio Management
- Project Planning
- Status Tracking
- Task Management
- Time & Expense Tracking

#### Pros

- Very flexible and customizable (API)
- Lots of add-ons available in the market
- Scales easily for a growing business
- Intuitive

#### Cons

- Too many functionalities
- No free plan

#### Pricing model

Tool is available on the monthly or annual based subscription model, with 3 different plans, ranging from \$9 to \$24 per month. For enterprises it is also possible to inquire for a custom plan.

### 2.3.4. ProofHub



#### Description

ProofHub is online all-in-one project management software & team collaboration tool, which allows that teams, clients and all the project communication stays in one place. It is web based set of tools that offers wide range of functionalities to help with business and projects such as proofing, roles, task management, workflows and boards, Gantt charts, reports, time tracking, calendar, communication, file management, logging and others. It is accessible through web browser with possibility to use it on Android and iOS based mobile devices. [11 in 2]

#### Key features

- Milestone Tracking
- Percent-Complete Tracking
- Project Planning
- Resource Management
- Status Tracking
- Task Management
- Time & Expense Tracking

#### Pros



- Clear interface
- Easy setup
- Nice balance of features and simplicity
- Competitively price
- Free trial available

#### Cons

- No recurring option for tasks
- Slow interface and occasional UI annoyances

#### Pricing model

Tool is available on the monthly or annual based subscription model, with 2 different plans available: Essential (\$50 monthly or \$45 monthly if billed annually) and Ultimate Contrl (\$99 monthly or \$89 monthly if billed annually). Free trial is available for the period of 30 days.

### 2.3.5. Bitrix24



#### Description

Bitrix24 is collaboration and social intranet platform for businesses, offering wide range of tools for project management, team & client collaboration, document sharing and maanagement, clients management, HR management, communication tools (both text and video) and ther management supporting tools. It is web-based application that can also be used on-premise for enterprises.

#### Key features

- Social Network
- Tasks & Projects
- Chat & Video
- Documents
- Drive
- Calendars
- Mail
- CRM
- Clients
- Telephony
- HR
- Mobile
- Sites

#### Pros

- Very powerful with lots of tools
- Supporting 3<sup>rd</sup> party integrations
- Applicable for any business [12 in 2]

#### Cons

- Can become very complex



## Pricing model

Tool is available on the monthly based subscription model, with 4 different plans available: Free, Plus (\$39 per month), Standard (\$99 per month) and Professional (\$199 per month).

### 2.3.6. Zoho



## Description

Zoho is a online office suite and set of tools for document processing, database management, web conferencing and communication, CRM (customer relationship management), project and task management, invoicing, e-mail, social media management, human resource management, reporting and other business and management supporting tools. It is offered as a online tool with the possibility to install seperate modules as the plugin in the Microsoft Word, Excel or other relevant complementary software. It also offers integration with 3rd party services such as Dropbox for document sharing, Slack for communication and and Github for code repository.

## Key features

- Project Management
- HR management
- Documents
- CRM
- Calendars
- E-Mail
- Social network management
- Finances management & invoicing
- 3<sup>rd</sup>

party

integrations

## Pros

- A lot of tools available [13 in 2]
- Applicable for any business
- Great user experience

## Cons

- Support response delay

## Pricing model

Tool is available on the monthly based subscription model, with 4 different plans available: Free, Express (\$25 per month), Premium (\$50 per month) and Enterprise (\$100 per month).

### 2.3.7. Slack



#### Description

Slack is cloud-based set of tools that enable team collaboration and communication in the forms of group channels and private conversations. It also allows to upload and share documents as the attachments to the conversation and integration of multiple different 3rd party applications (more than 20 different) such as Dropbox, Google Drive, Google Calendar, RSS and others. It can be also installed on-premise. [14 in 2]

#### Key features

- Team collaboration & communication
- 3<sup>rd</sup> party integrations
- 

#### Pros

- Free plan is available
- Accessible from all devices
- User-friendly way of communication (clearer than e-mail)

#### Cons

- No bigger cons recognized

#### Pricing model

Tool is available on the monthly based subscription model, with 3 different plans available: Free, Express (6.25€ per month), Plus (11.25€ per month). For most of the smaller organisation, free plan is good enough.

### 2.3.8. Plum



#### Description

Plum is online Human resources management and pre-employment assessment tool that uses screening surveys and behavioral science to match candidates with hiring teams and roles. It helps employers identifying and shortlisting candidates and interview applicants using structured behavioral questions. Hiring managers can select the most important qualities required for each role through a short role analysis survey, and Plum uses its inbuilt algorithm to calculate a role match score for each applicant based on their assessment responses and the output of the role analysis. [15 in 2] Besides the possibility to define job requirements, collect resumes and do the testing, it also offers provide analytical data and prediction of quality of hire. It is offered as a SaaS (Software-as-a-Service) solution accessible from web browser and is applicable for all businesses.

#### Key features

- HR management
- Pre-employment assessment
- Applicant and Employer survey



- Candidat comparison
- Behavioural analysis of candidates

#### Pros

- Trial period is available
- Simplifies hiring process

#### Cons

- No bigger cons recognized

#### Pricing model

Tool is available through subscription model, with plans depending on the number of hires annually: Basic: up to 6 hires annually. Pro: 7-48 hires annually, Premium: 49-200 hires annually, Enterprise: 201-800 hires annually. Free trial period is also available.

### 2.3.9. Breezy HR



#### Description

Breezy HR is end-to-end recruiting software designed to optimize the recruiting process bringing the resources on board in less time (and with less hassle) in a user friendly way. The process of hiring is supported through functionalities like candidate management, advertising of jobs, candidate sourcing, career portals, email & scheduling, team collaboration and reporting. [16 in 2]

#### Key features

- HR management
- Candidate management
- Reporting & Analytics
- Email & Scheduling
- Advertise Jobs
- Candidate sourcing
- Career portals
- Team Collaboration

#### Pros

- Everything in one place & easy to use
- Different pipelines for different positions
- Powerful automations to help save time
- Flexible pricing

#### Cons

- Mobile app offers limited functionality
- Reports are not as advanced as they could be

#### Pricing model

Tool is available on the monthly based subscription model, with 3 different plans available: Uno (free), Starter (\$50 per month) and Growth (\$149 per month). For organisations with larger requirements it is also possible to get custom tailored plan.

## 2.4. Internal processes support tools

Based on our findings described above, we have selected the following internal processes support tools and their descriptions from the Research on ICT tools applicable to WISEs [2]:

- **Workflow management:** workflow management is the automation of business processes. This includes orchestration of all parts of the business process, the management of all user interactions and administrative tasks. [17 in 2]
- **Quality management:** Quality management is focused not only on product and service quality, but also on the means to achieve it. Quality management, therefore, uses quality assurance and control of processes as well as products to achieve more consistent quality. [18 in 2]
- **Production Planing:** the administrative process that takes place within a manufacturing business and which involves making sure that sufficient raw materials, staff and other necessary items are procured and ready to create finished products according to the schedule specified. A typical large manufacturing business engaging in production planning will aim to maximize profitability while maintaining a satisfied consumer base. [19 in 2]
- **Warehouse management:** process of supporting and optimizing of warehouse activities such as daily planning, organizing and diricting of resources and materials.

Following tools and solutions have been identified and described: SAP ERP, Odoo, ERPNext.

### 2.4.1. SAP ERP



#### Description

SAP SE is one of the largest vendors of enterprise resource planning (ERP) software and related enterprise applications. It is a software system that integrates internal and external management information across an entire organization. It can handle various different internal and external processes such as financing, manufacturing, sales and service, CRM, ERP, Human Resources management, Supply chain management, Project management etc. [20 in 2] It is offered both as an integrated enterprise software and cloud-hosted set of applications.

#### Key features [21 in 2]

- Human Capital Management (HCM)
- Production Planning (PP)
- Materials Management (MM)
- Project System (PS)
- Sales and Distribution (SD)
- Plant Maintenance (PM)
- Financial Accounting (FI)
- Quality Management (QM)
- Controlling

(CO)



#### Pros

- Global and viable solution
- Huge scope of operations covered by provided tools
- Rich analytics and business intelligence
- Huge community

#### Cons

- Complex pricing
- High price
- High enter and exit barriers

#### Pricing model

Complex combination of licences and subscription models, depending on the set of tools chosen and type of usage (on-premise, cloud).

### 2.4.2. Odoo



#### Description

Odoo (formerly OpenERP) is an integrated set of applications that offer modules for project management, billing, accounting, inventory management, manufacturing, and purchasing. Modules are integrated with each other and can exchange all kinds of necessary information. In opposite to bigger ERP system, Odoo is makes it all friendlier with a simple and clean user interface. The interface is reminiscent of Google Drive, with just the functions you need visible. It is offered as a web-based tool or as an installed software solution. [22 in 2]

#### Key features

- Operations (Projects, Inventory, Timesheets, MRP)
- Finances (Invoicing and accounting)
- Sales and marketing (CRM, POS, Analytics, Mass mailing, Marketing automation)
- Websites (Website builder, eCommerce)

#### Pros

- Simple and user-friendly
- Accessible from all devices
- Free trial available

#### Cons

- Not as advanced as bigger enterprise solutions
- Poor documentation

#### Pricing model

Pricing model is set up as the combination of user subscription (\$15 per month) and application subscription (up to 30€ per month per app). 15 days free trial is also available.

### 2.4.3. ERPNext



ERPNext

#### Description

ERPNext is an open source project and is ERP (Enterprise Resource Planning) software. It was designed to scratch a particular itch, in this case replacing a creaky and expensive proprietary ERP implementation. It is applicable for small and medium-sized businesses in different industries such as Services, Manufacturing, Retail, Distribution and Schools. It includes modules for accounting, asset management, CRM, HRM, sales, purchase, warehouse management, and project management. It can be used as a public hosted application or downloaded and installed on the private infrastructure. [23 in 2]

#### Key features

- Project management
- Human resources management
- Production planning
- Sales and purchases
- Assets management

#### Pros

- User friendly
- Open source
- Very active community

#### Cons

- Missing some vital 3<sup>rd</sup> party integrations (in example: bank statements)
- Documentation could be better

#### Pricing model

ERPNext is available as an open source software, that can be downloaded and self hosted, or as a SaaS (Software as a service) with the pricing model consisting of 8 different plans (from \$300 to \$10.000 per year), all of them containing functional support.

## 2.5. Promotional and other marketing related tools

From the Research on ICT tools applicable to WISEs [2] we have selected the tools that are either used for **analytical purposes** related to marketing, or to **Customer Relationship management (CRM)**: CRM is an approach to manage a company's interaction with current and potential customers. It uses data analysis about customers' history with a company to improve business relationships with customers, specifically focusing on customer retention and ultimately driving sales growth. [24 in 2]

### 2.5.1. Google Analytics



#### Description

Google Analytics is free tool provided by Google, that tracks and reports web traffic. It is one of the most powerful and scalable analytics tools. It helps website and webstore owners to collect, analyse and visualise traffic and users' behaviour on their websites. It also helps with measuring and tracking of online marketing campaigns, landing page quality and conversions. [25 in 2] It is offered as a web-based tool, accessible also from mobile devices and tablets, using native applications.

#### Key features

- Web traffic tracking & analysis
- Marketing campaigns and goals
- Behavioural analysis
- Visualisation and dashboards
- Reporting

#### Pros

- Free to use
- Easy to install on the websites
- Compatible with all devices and browsers
- Possible to integrate data from other sources
- Very customizable
- Integration with other services (such as AdWords for advertising)

#### Cons

- Training is almost necessary
- Google account is required

#### Pricing model

Tool is free to use. There is also Premium version of the tool available for \$150.000 per year.

### 2.5.2. Wix



#### Description

Wix is all-in-one online website builder, using which users can define, create and publish websites for free. Websites can be build based on the pre-existing templates and modified using drag and drop user interface as the part of Wix administration panel. Templates and websites that are built on top of them are optimized for the mobile devices and friendly to the search engines. It is also possible for the users to register and use their preferred domain in the same place. Wix is offered as a cloud-based application.

#### Key features

- Website building
- Website publishing
- Apps and modules market
- 3<sup>rd</sup> party integrations

#### Pros

- Free plan available [26 in 2]
- Very intuitive user interface
- Lots of templates and modules available
- High speed and performance of websites hosted on Wix

#### Cons

- Ads on the websites when using free plan
- Not so great for eCommerce
- Websites usually don't look professionally

#### Pricing model

Tool is free to use, but web page contains Ads and is published on the wix domain in this case. There are also 5 different premium plans available, ranging from 4 € to 24,50 € per month. All the plans include hosting.

## 2.6. E-learning tools

Regarding the e-learning tools, we can distinguish between:

- General applications that can be used for e-learning
- Specific hubs and services relevant for the selected sectors, in which WISEs operate, i.e. waste management, agriculture and tourism
- Massive open on-line courses (MOOCs) relevant to the selected sectors.

### 2.6.1. General applications

General applications include the tools and platforms that support all necessary functionalities for e-learning and dissemination of knowledge through webinars, as described in the Research on the ICT tools [2]





**E-learning** is a learning system based on formalised teaching but with the help of electronic resources is known as E-learning. While teaching can be based in or out of the classrooms, the use of computers and the Internet forms the major component of E-learning. E-learning can also be termed as a network enabled transfer of skills and knowledge, and the delivery of education is made to a large number of recipients at the same or different times. Earlier, it was not accepted wholeheartedly as it was assumed that this system lacked the human element required in learning. [27 in 2]

**Webinar** is an abbreviation for Web-based seminar, a webinar is a presentation, lecture, workshop or seminar that is transmitted over the Web using video conferencing software. A key feature of a Webinar is its interactive elements is the ability to give, receive and discuss information in real-time. Using Webinar software participants can share audio, documents and applications with webinar attendees. This is useful when the webinar host is conducting a lecture or information session. While the presenter is speaking they can share desktop applications and documents. Today, many webinar services offer live streaming options or the ability to record your webinar and publish to YouTube and other service later. [28 in 2]

Following tools and solutions have been identified and described: Moodle, Adobe Connect and GoToWebinar.

### 2.6.2. Moodle



#### Description

Moodle is free, open-source, online Learning Management System (LMS) that enables educators to level up features with various instruction, assessment and reporting modules. It offers detailed guides, tips and tutorials on how to install system, how to set up your own Learning Management System, how to create online training courses .... Moodle offers well organized Dashboard (composed of multiple blocks), supports different roles and groups, also offers activities, assignments, progress tracking, reporting and plug-ins. Moodle is web based solution, which also offers their solution as mobile application. [29 in 2]

#### Key features [30 in 2]

- Personalised Dashboard
- Collaborative tools and activates
- All-in-one calendar
- File management
- Group management
- Multimedia integration
- Intuitive text editor
- Notifications
- Track progress
- Marking

workflow

#### Pros

- Proven and trusted worldwide
- Good support (guides, tips, tutorials ...)
- Easy to use
- Free with no licensing fees
- Multi-language (more than 120 languages available)
- Always up-to-date
- All-in-one platform
- Flexible and customisable
- Scalable to any size

#### Cons

- Generally, no cons

#### Pricing model

Tool is free to use.

### 2.6.3. Adobe Connect



#### Description

Adobe Connect is web conferencing software service that offers immersive online meeting experience for collaborating, virtual classrooms and large-scale webinars. Product is completely Adobe Flash based. Meeting rooms are organized into pods, each pod performs specific role (chat, note, whiteboard ...). [21 in 2]

#### Key features

- Screen sharing
- Rich recording and editing tools
- Notes, chat and whiteboards
- Multiple meeting rooms per user
- Highly secure communication and compliance
- Fully customizable
- Rich user management, administration and reporting options
- VoIP support

#### Pros [32 in 2]

- Highly customizable
- Up to 100 users in a single group call
- Optimized for low-bandwidth users
- Support chat, annotation
- Meeting control (presenter can mute others)
- File sharing during a call
- Calls recording option
- Whiteboard

#### Cons

- Does not integrate directly with existing videoconference rooms (needs separate camera and mic)
- No shared accounts allowed
- Complex interface (compared to alternatives)
- No dial-in numbers support (VoIP only)

#### Pricing model

Tool is available on the monthly or yearly based subscription plan, with 3 different option of products: Adobe Connect Meetings (starting at \$50 per month), Adobe Connect Webinars (starting at \$130 per month) and Adobe Connect Learning (starting at \$370 per month).

#### 2.6.4. GoToWebinar



#### Description

GoToWebinar is a solution that makes communication with prospects, employers, partners and customs easier and more effective. Solution offers screen sharing for up to 2000 attendees with free audio over VoIP, dial-up numbers and toll-free audio option, also offers advanced scheduling options to run webinars. GoToWebinar allows to add video sharing, polls, surveys and Q&As into your presentation. It also offers possibility to analyse recordings, registration attendance and the performance of your events. [33 in 2]

#### Key features [34 in 2]

- Email Automation (invitations, confirmations and reminders)
- Custom branding on webinar materials
- Pre-recorder webinars option (on live events)
- Rich audience interaction
- Video sharing
- Mobile support
- Webinar recording (play back later option)
- Reporting and analytics features (real-time analytics)
- Multiple presenters / panellists

#### Pros

- User-friendly
- Email functionality
- Real-time screen sharing
- Annotation feature

#### Cons [35 in 2]

- Requires Java support
- No support for smartphones and tablets
- No internal payment options
- Can't host the webinar directly from your website

#### Pricing model

Tool is available on the monthly based subscription plan, with 3 different options: Starter (\$89 per month), Pro (\$199 per month) and Plus (starting at \$429 per month).

#### 2.6.5. Specific hubs and services

For the selected sectors, where WISEs typically operate, the benchmarking document prepared by Fondazione Politecnico di Milano [36] has been used. See Table 3.

Table 3: Specific hubs and services

SERVICE / PROJECT	OFFERED BY	DESCRIPTION
<p>Biohec-LIFE <a href="http://www.gecco.fr/biohec-life/">http://www.gecco.fr/biohec-life/</a></p> <p>Keywords: waste management / innovative methods and techniques for managing processes</p>	<p>co-financed by the European Commission within the scope of the LIFE program</p> <p>partners <a href="http://www.pourlasolidarite.eu/en/project/used-cooking-oils-biofuel-production-project-biohec-life">http://www.pourlasolidarite.eu/en/project/used-cooking-oils-biofuel-production-project-biohec-life</a></p>	<p>The European project « BIOHEC-LIFE - Advanced Biodiesel in circular economy for low carbon public transports » aims at exploiting used cooking oils (UCO) for the production of environmentally-friendly biofuel while promoting the social economy sector</p>
<p>Capsella <a href="http://www.capsella.eu/">http://www.capsella.eu/</a></p> <p>Keywords: agriculture / digital services to support collaborative economy</p>	<p>received funding from the European Union's Horizon 2020 research and innovation programme</p> <p>partners <a href="http://www.capsella.eu/partners/">http://www.capsella.eu/partners/</a></p>	<p>Capsella develops innovative ICT solutions tailored to the needs of all food, field and seed related actors engaging in agrobiodiversity. Above all, we harness the power of open data to help communities innovate.</p> <p>Capsella has a bottom-up, participatory approach, to ensure ICT responds to your needs, including user conversations, workshops, hackathons, an online platform for collaboration and sharing open data (<a href="http://www.capsella.eu/platform">http://www.capsella.eu/platform</a>). Users: farmers, food &amp; seed communities and networks interact with agroecology, agri-food and ICT experts to test, validate and select the innovative applications and tools best suited to their needs.</p>
<p>Database: Social innovations in marginalised rural areas (SIMRA project) <a href="http://www.simra-h2020.eu">http://www.simra-h2020.eu</a></p> <p>Keywords: agriculture / digital services to support training and lifelong learning</p>	<p>supported under the European Union's Horizon 2020 Programme</p> <p>Partners <a href="http://www.simra-h2020.eu/index.php/partners/">http://www.simra-h2020.eu/index.php/partners/</a></p>	<p>Database of examples of Social Innovations in agriculture, forestry and rural development. The database describes in brief selected examples and will be updated regularly with new examples during the project</p>
<p>DigitalGreen <a href="http://www.digitalgreen.org">http://www.digitalgreen.org</a></p> <p>Keywords: agriculture / digital services to support training and lifelong learning - digital services to support collaborative economy</p>	<p>Donors: USAid, Bill and Melinda Gates foundation, Google, Grameen foundation, etc.</p>	<p>Global development organization that empowers smallholder farmers to lift themselves out of poverty by harnessing the collective power of technology and grassroots-level partnerships.</p> <p>Some initiatives:</p> <p>Farmerbook, open-access platform that displays detailed timeline-based activities of farmers we have worked with, along with villages plotted on Google Maps. The application stimulates healthy competition among partners, village facilitators, and community members through the sharing of performance data and community (<a href="https://solutions.digitalgreen.org/coco/farmerbook/">https://solutions.digitalgreen.org/coco/farmerbook/</a>)</p> <p>WonderVillage, Facebook game, which allows external audiences to learn about and engage in issues related to rural development (<a href="https://apps.facebook.com/wondervillage">https://apps.facebook.com/wondervillage</a>)</p>



SERVICE / PROJECT	OFFERED BY	DESCRIPTION
		<p>VideoKheti, responsive web application that provides access to our video library through an easy-to-navigate interface for low-literate farmers and extension workers on any device (<a href="http://videos.digitalgreen.org/videokheti">http://videos.digitalgreen.org/videokheti</a>)</p> <p>Loop, a solution that facilitates farmers' efforts to sell their produce as efficiently as possible, for the best possible price, without having to take time away from farming or their families (<a href="http://www.digitalgreen.org/loop/">http://www.digitalgreen.org/loop/</a>)</p>
<p>EcoMercadoPeru <a href="http://ecomercadoperu.com/">http://ecomercadoperu.com/</a></p> <p>Keywords: agriculture / digital services to support collaborative economy</p>	IICD non-profit foundation (dismissed?)	<p>Web-based platform, which mobilizes consumers and entrepreneurs in Peru to create and meet the demand for organic products. By connecting more than 2,900 families of ecological producers to alternative markets and offering information on organic household production, the online platform improves awareness of organic products, makes trade fairer, provides producers with market access and raises their income.</p>
<p>e-Agriculture <a href="http://www.e-agriculture.org/">http://www.e-agriculture.org/</a></p> <p>Keywords: agriculture / digital services to support training and lifelong learning - innovative methods and techniques for managing processes</p>	Food and Agriculture Organization of the United Nations (FAO)	<p>Global community of practice that facilitates dialogue, information exchange and sharing of ideas related to the use of information and communication technologies (ICTs) for sustainable agriculture and rural development. The e-Agriculture Community underpins actions related to the World Summit on the Information Society Action Line C7. ICT applications: benefits in all aspects of life, e-agriculture e.g.</p> <p>call for good and promising practices on the use of ICTs for Agriculture in the region of Europe and Central Asia (<a href="http://www.e-agriculture.org/news/call-good-and-promising-practices-region-europe-and-central-asia">http://www.e-agriculture.org/news/call-good-and-promising-practices-region-europe-and-central-asia</a>)</p> <p>self-learning activity on drones (<a href="http://www.e-agriculture.org/newsletters/e-agriculture-newsletter-no7-2017">http://www.e-agriculture.org/newsletters/e-agriculture-newsletter-no7-2017</a>)</p>
<p>Fertinnowa <a href="http://www.fertinnowa.com/">http://www.fertinnowa.com/</a></p> <p>Keywords: agriculture / digital services to support training and lifelong learning - innovative methods and techniques for managing processes</p>	<p>received funding from the European Union's Horizon 2020 research and innovation programme</p> <p>partners <a href="http://www.fertinnowa.com/project/consortium-members/">http://www.fertinnowa.com/project/consortium-members/</a></p>	<p>Thematic network whose main aim is to create a meta-knowledge database of innovative technologies and practices for the fertigation of horticultural crops and a knowledge exchange platform to evaluate existing and novel technologies (innovation potential, synergies, gaps, barriers).</p> <p>A multi-actor integrated approach will be used through the FERTINNOWA platform which will involve various stakeholders (researchers, growers, policy-makers, industry, environmental groups etc.) at several levels including the socio-economic and regulatory level (national and European)</p> <p>FERTINNOWA will help the growers to implement innovative technologies in order to optimize water and nutrient use efficiency thus reducing the environmental impact.</p>
<p>FAO e-learning centre <a href="http://www.fao.org/elearning/#/elc/en/home">http://www.fao.org/elearning/#/elc/en/home</a></p>	Food and Agriculture Organization of the United Nations (FAO)	<p>Free online courses that cover a wealth of topics in the areas of food and nutrition security, social and economic development and sustainable management of natural resources.</p>



SERVICE / PROJECT	OFFERED BY	DESCRIPTION
Keywords: agriculture / digital services to support training and lifelong learning		
<p>HNV-Link <a href="http://www.hnvlink.eu/">http://www.hnvlink.eu/</a></p> <p>Keywords: tourism - environment / digital services to support training and lifelong learning - innovative methods and techniques for managing processes</p>	<p>supported under the European Union's Horizon 2020 Programme</p> <p>partners <a href="http://www.hnvlink.eu/about/partners/">http://www.hnvlink.eu/about/partners/</a></p>	<p>Developing and sharing innovations that support farming systems in areas of exceptional natural values across Europe through a multi-actor approach.</p> <p>Learning Area: multi-actor cluster of stakeholders such as farmers, professional associations, NGOs, local authorities, and education and applied research institutes. The network's mission is to create a "community of practice and knowledge", in which innovation for HNV systems can be shared and furthered (<a href="http://www.hnvlink.eu/learning-areas">http://www.hnvlink.eu/learning-areas</a>)</p>
<p>infoDev <a href="http://www.infodev.org/">http://www.infodev.org/</a></p> <p>Keywords: environment / business acceleration</p>	World Bank Group	<p>Multi-donor program that supports entrepreneurs in developing economies and oversees a global network of business incubators and innovation hubs for climate (including research and initiatives to boost the success of women entrepreneurs in developing economies)</p> <p>Women Innovators Network in the Caribbean: The program supports women entrepreneurs through webinars and training programs, including the WINC Acceleration Program (<a href="http://www.infodev.org/EPIC">http://www.infodev.org/EPIC</a>)</p>
<p>LAWPret <a href="http://waste-prevention.gr/waste/">http://waste-prevention.gr/waste/</a></p> <p>Keywords: waste management - recycling / digital services to support training and lifelong learning</p>	<p>Co-funded by the Erasmus+ programme of the EU</p> <p>Partners <a href="http://waste-prevention.gr/waste/">http://waste-prevention.gr/waste/</a></p>	<p>The project provides training to local authority employees in Greece, Cyprus and Slovenia on waste prevention</p> <p>prevention actions bank (<a href="http://waste-prevention.gr/waste/?page_id=73">http://waste-prevention.gr/waste/?page_id=73</a>)</p> <p>collection of videos (<a href="http://waste-prevention.gr/waste/?page_id=71">http://waste-prevention.gr/waste/?page_id=71</a>) and useful links (<a href="http://waste-prevention.gr/waste/?page_id=89">http://waste-prevention.gr/waste/?page_id=89</a>) from the web</p>
<p>M-farm (Kenya) <a href="http://mfarm.co.ke/">http://mfarm.co.ke/</a></p> <p>Keywords: agriculture / digital services to support training and lifelong learning</p>	MFarm Limited	Platform for mobile phones that gives farmers (especially small scale farmers in rural areas) information about market prices across the Country. The platform allows to connect with buyers and farmers around you to sell your produce and provides additional learning resources for farmers.
<p>Question Box <a href="http://www.questionbox.org">http://www.questionbox.org</a></p>	Open Mind, a US nonprofit organization	Question Box callbox networks extend program reach by deploying public helpline installations into underserved communities. These public callboxes allow community members to go for help and to

SERVICE / PROJECT	OFFERED BY	DESCRIPTION
Keywords: agriculture / digital services to support training and lifelong learning - innovative methods and techniques for managing processes		provide feedback, near their homes and place of business. The methodology offers a new place to provide program services and a new stream of localized feedback data.  Using callboxes, information provided to communities can be centralized; incoming data from communities benefits from timeliness and quality control; and limited human resources can serve more people.
Valdverbard Oesterreich <a href="https://www.waldverband.at/wp-content/uploads/2016/12/Waldklimafit_Ich-mache-meine-W%C3%A4lder-klimafit_ohne-Anschnitt.pdf">https://www.waldverband.at/wp-content/uploads/2016/12/Waldklimafit_Ich-mache-meine-W%C3%A4lder-klimafit_ohne-Anschnitt.pdf</a>  Keywords: environment / digital services to support training and lifelong learning - innovative methods and techniques for managing processes	Partners <a href="https://www.waldverband.at/ueber-uns/unsere-partner/">https://www.waldverband.at/ueber-uns/unsere-partner/</a>	The management of vital, growing forests can ensure that forests make essential contributions in terms of sequestering carbon and delivering sustainable renewable energy and bio-materials. The focus has to be on supporting and delivering 'climate-fit forests'. 'Wald.Klima.Fit' supports foresters to make their forests climate-fit, providing advice on topics such as choice of tree species, forest tending measures, harvesting and natural regeneration.
PROSPECTUS online business accelerator <a href="https://www.walkerslegacy.com/prospectus-2017-cohort/">https://www.walkerslegacy.com/prospectus-2017-cohort/</a>  Keywords: business acceleration	Walker's Legacy is a growing global women in business collective founded to establish networks of empowerment and access for women of color in business	PROSPECTUS is an accelerated online entrepreneurship training program that utilizes original curriculum, a cohort model and a structured learning environment to aid women-of-color entrepreneurs and business owners in scaling and commercializing their entrepreneurial pursuits.

## 2.7. Massive open online courses (MOOCs)

For the selected sectors, where WISEs typically operate, the benchmarking document prepared the Fondazione Politencio di Milano [36] has been used. See Table 4.





Table 4: Massive open online courses

MOOC	OFFERED BY	DESCRIPTION
<p>Sustainability of Food Systems: A Global Life Cycle Perspective  <a href="https://www.coursera.org/course/globalfoodsystems">https://www.coursera.org/course/globalfoodsystems</a></p>	<p>University of Minnesota</p>	<p>This course explores the diversity of the foods we eat, the ways in which we grow, process, distribute, and prepare them, and the impacts they have upon our environment, health, and society. We will also examine the challenges and opportunities of creating a more sustainable global food system in the future. Target audience not specified.</p> <p>Basic features</p> <p>Language: English</p> <p>Platform: Coursera</p> <p>8 weeks; estimated effort: 3-4 hours/week</p> <p>discussions with peers all over the world + case studies + readings</p>
<p>Communicating Corporate Social Responsibility (CSR)  <a href="https://www.edx.org/course/communicating-corporate-social-louvainx-louv12x-1">https://www.edx.org/course/communicating-corporate-social-louvainx-louv12x-1</a></p>	<p>Université Catholique de Louvain, Belgium</p>	<p>Explore what corporate social responsibility is, how it works, and its true impacts. Let's co-build the responsible enterprise of tomorrow!</p> <p>Basic features</p> <p>Language: English</p> <p>Platform: edX</p> <p>Course structure: 6 weeks</p> <p>Weekly workload: 4-6 hours</p> <p>Archived - future dates to be announced. Archived course (you can review course content but it is no longer active):  <a href="https://courses.edx.org/courses/course-v1:LouvainX+Louv12x+1T2017/course/">https://courses.edx.org/courses/course-v1:LouvainX+Louv12x+1T2017/course/</a></p>
<p>Agroécologie  <a href="https://www.france-universite-numerique-mooc.fr/courses/Agreenium/66001/session01/about">https://www.france-universite-numerique-mooc.fr/courses/Agreenium/66001/session01/about</a></p>	<p>Agreenium (French research and education consortium in the agronomic and veterinary fields)</p>	<p>Discovering agroecology. Target audience: students, agricultural development players decision makers, anyone interested in the subject</p> <p>Basic features</p> <p>Language: French</p> <p>Platform: France Université Numérique</p> <p>Dynamic of participatory learning that leverages the social and geographical variety of players; each participant can enrich the course with field observations and literature review</p> <p>Duration: 6 weeks; estimated effort: 4 hours/week</p>
<p>Le tourisme culturel aujourd'hui : quels enjeux ?  <a href="https://www.fun-mooc.fr/courses/course-v1:UPVD+95003+session02/about">https://www.fun-mooc.fr/courses/course-v1:UPVD+95003+session02/about</a></p>	<p>Université Perpignan</p>	<p>Reflecting on mutations and challenges of cultural tourism. Target audience: students, tourism professionals, anyone interested in the subject</p> <p>Basic features</p> <p>Language: French</p> <p>Platform: France Université Numérique</p>





MOOC	OFFERED BY	DESCRIPTION
		Duration: 8 weeks; estimated effort: 3 hours/week
eTourism: Communication Perspectives <a href="https://iversity.org/en/courses/etourism-communication-perspectives-october-2016?r=2548d">https://iversity.org/en/courses/etourism-communication-perspectives-october-2016?r=2548d</a>	Università della Svizzera italiana	An introduction course to a fascinating travel into the eTourism world, which crosses both space and time, and is always closely connected with communication. In fact, we are embarking to create a great study experience, which explores how Information and Communication Technologies (ICTs) do matter for tourism - both for our personal experience, and for the tourism industry at large. In other words, we will together explore eTourism by using tools and models of the Communication Sciences.  Basic features  Language: English  Platform: Iversity  Self-paced (ended)
Developing a food bank nutrition policy: A guide to procure healthful foods <a href="https://www.canvas.net/browse/cwh/courses/food-bank-nutrition-policy-1">https://www.canvas.net/browse/cwh/courses/food-bank-nutrition-policy-1</a>	University of California, Berkeley	Food banks are important community organizations that provide charitable food assistance to food insecure households. explaining the process of developing food bank nutrition policies to help food bank staff and others in making nutrition improvements in food inventory. The process, rationale, and course resources may be useful to adapt in other Countries. Target audience: staff and volunteers of food banks, and other charitable feeding organizations, nutritionists and other public health professionals, food policy councils, educators  Basic features  Language: English  Platform: Canvas  Duration: 6 weeks; estimated effort: self-paced
Global Food Security: Addressing the Challenge <a href="https://www.futurelearn.com/courses/food-security">https://www.futurelearn.com/courses/food-security</a>	Lancaster university, United Kingdom	Introducing the issue of food security and exploring some of the different ways in which it has been described both in research and in practice and consider key concerns for the future. Target audience: anyone interested in the subject  Basic features  Language: English  Platform: FutureLearn  Duration: 8 weeks; estimated effort: 3 hours/week  hashtag #FLfoodsecurity to join and contribute to Twitter conversations about the course
Agriculture and the world we live in <a href="https://www.open2study.com/courses/agriculture-and-the-world-we-live-in">https://www.open2study.com/courses/agriculture-and-the-world-we-live-in</a>	Massey University, New Zealand	Overview of how agriculture feeds the world: a study of farms, farmers and the challenges they face. Audience not specified; useful for career guidance (agrifood careers)  Basic features  Language: English



MOOC	OFFERED BY	DESCRIPTION
		<p>Platform: Open2Study (backed by Open Universities Australia - OUA)</p> <p>Duration: 4 weeks; estimated effort: 2-4 hours/week</p>
<p>e-waste challenge MOOC</p> <p><a href="http://learning.climate-kic.org/courses/e-waste-mooc">http://learning.climate-kic.org/courses/e-waste-mooc</a></p>	<p>Climate-KIC, the EU's main climate innovation initiative. Course materials developed in partnership between Climate-KIC and United Nations Environment Programme Secretariat of the Basel, Rotterdam and Stockholm Conventions (UNEP/BRS), KU Leuven, World Resources Forum</p>	<p>e-waste is the challenge of our century - and how, if we work together, we can turn this challenge into an opportunity to help mitigate climate change, create green jobs, and help countries kick-start a circular economy.</p> <p>Basic features</p> <p>Language: English</p> <p>English</p> <p>Several pathways; for certificate pathway: duration 8 weeks; weekly workload 4-6 hours</p>
<p>Tourism and Travel Management</p> <p><a href="https://www.edx.org/course/tourism-travel-management-uqx-tourismx">https://www.edx.org/course/tourism-travel-management-uqx-tourismx</a></p>	<p>University of Queensland</p>	<p>Play Video: Tourism and Travel Management</p> <p>Tourism and Travel Management</p> <p>Leading tourism practitioners and researchers offer insider perspectives on this dynamic and growing industry</p> <p>Basic features</p> <p>Language: English</p> <p>Platform: edX</p> <p>Duration: 7 weeks; estimated effort: 2-3 hours/week</p>
<p>Our Hungry Planet: Agriculture, People and Food Security</p> <p><a href="https://www.futurelearn.com/courses/our-hungry-planet">https://www.futurelearn.com/courses/our-hungry-planet</a></p>	<p>University of Reading</p>	<p>Investigating our relationship with agriculture and your own food habits. Journey around the world from Europe to Africa to Asia; focus on the experience of family farmers (who produce 80% of the world's food). Target audience: anyone with an interest in food, food security and food waste; farming and agriculture; or sustainability</p> <p>Basic features</p> <p>Language: English</p> <p>Platform: FutureLearn</p> <p>Duration: 6 weeks; estimated effort: 3 hours/week</p>
<p>Municipal Solid Waste Management in Developing Countries</p> <p><a href="https://www.coursera.org/learn/solid-waste-management">https://www.coursera.org/learn/solid-waste-management</a></p>	<p>École Polytechnique Fédérale de Lausanne</p>	<p>This course provides an overview of the municipal solid waste management situation in developing countries covering key elements of the waste management system, with its technical, environmental, social, financial and institutional aspects. Besides understanding the challenges you will learn about appropriate and already applied solutions through selected case studies. The course covers several organic waste treatment technology options such as composting, anaerobic digestion, and some other innovative approaches.</p>

MOOC	OFFERED BY	DESCRIPTION
		<p>This course is one of four in the series “Sanitation, Water and Solid Waste for Development”</p> <p><b>Basic features</b></p> <p><b>Language:</b> English</p> <p><b>Platform:</b> Coursera</p> <p><b>Duration:</b> 5 weeks; <b>estimated effort:</b> 1-2 hours/week</p>

## 2.8. Products and services related ICT tools

Next, we specify the tools and solutions that are targeting specific sector, such as agriculture, tourism or waste management for example. These tools, unlike the tools in other use areas, are not applicable for all kind of businesses and are vertically oriented [2].

Following tools have been identified and described: Farm Management (agriculture), eVineyard (agriculture) and WasteBits (waste management).

### 2.8.1. Farm Manager



#### Description

Farm Manager is cloud-based tool for smart farm management, called Farm Manager, that enables creation of farm calculations, planning of food production, statistical information related to the farm and consulting about planning of the farm and optimization of the costs. Product was developed in cooperation with experts from agriculture sector, and combining their knowledge with ours in ICT and business development, Farm Manager was launched in 2015 with the goal of stepping into the smart agriculture industry. It is offered as a cloud-based SaaS solution.

#### Key features

- Planning of food production
- Predictive calculations
- Statistics and reporting

#### Pros

- Easy to use
- Scalable to any size
- Up-to-date market indicators and metrics

#### Cons

- No integration with IoT devices yet
- Predictive calculations are based on pre-defined formulas
- Mobile application is not available

- Does not cover livestock or vineyard

#### Pricing model

Tool is offered on a monthly based subscription model. No official pricing is published by the vendor.

### 2.8.2. eVineyard



#### Description

eVineyard is vineyard management software developed by Elmitel that helps its users to save time, improve sustainability and higher the performance by reducing the paperwork and advising with crucial decisions for the vineyard. It also helps viticulturists to learn more about their vineyards through powerful analytics, and helps them spray smarter. It provides all information about the vineyard, like vineyard properties, activities, and environmental data. Calculations models that are built into the system are able to give the most certain and customized automated advice available nowadays about when, with what, and in what concentration the winegrower should spray in order to reduce the amount of pesticides used while safely avoiding yield losses. [37 in 2]

#### Key features

- Vineyard management
- Pesticide management
- Savings calculator
- IoT sensors and weather integration
- Statistics and reporting

#### Pros

- Helps saving time and costs
- Intuitive and simple
- Mobile app available

#### Cons

- No bigger cons recognized so far

#### Pricing model

No official pricing model or any prices are published by vendor.

### 2.8.3. Wastebits



#### Description



Wastebits is a web-based platform that streamlines the management of waste for those who generate waste, service providers and waste treatment facilities. [38 in 2] It's goal is to provide possibility to change the waste transactions by managing regulated waste transactions online, centralizing data collection and reporting, and replacing and converting paper to a digital format, which can improve operational efficiencies, performance and reporting. It helps waste facilities, generators and service providers better manage regulated waste transactions It is available as a cloud-based solution.

#### Key features

- Waste transactions & management
- Waste tracking
- Statistics and reporting

#### Pros

- Very user friendly
- Good support

#### Cons

- No bigger cons recognized so far

#### Pricing model

Product is available through monthly based subscription model. Pricing is not published. Demo is also available.

### 3. MANAGERIAL MODELS

The purpose of this thematic part was to recognise managerial ways and skills, which are crucial for the successful running of the enterprises. They affect common working climate and values, encourage or impede initiative for innovations, education and trainings. They play crucial work in achieving competitiveness in the market, good financial results and also contribute to the common inclusive growth in the society.

WISEs management often has problems with the proper mindsets. They require further skills regarding management that can be gained through education.

In the surveys, we have tested the orientation towards different managerial models. Goal/achievement orientation (“each part of the organisation contributes to common goals”) is clearly seen as the best regardless of the region. It is followed by the flexible, improvised approaches (“organisation adapts to needs and dynamics in each concrete situation”). WISEs representatives clearly reject either strictly control based hierarchical management (“employees are analysed, evaluated and controlled”) or the “laissez-faire” management (“people are mostly managed by themselves”).

Managerial practices, observed in the survey, also emphasised the presence of team work and internal collaboration, proficiency in financial management, efficient human resources management and efficient organisation of work and good administrative skills.

By definition, social enterprises are supposed to follow non-hierarchical, democratic, participative managerial models and should also be autonomous. In practice, however, this depends on their size, status and legal form.

Social enterprises (that are legally defined as such) and NGOs are typically more participative in terms of leadership and management. On the other hand, as observed in the Slovenian case, disability enterprises and employment centres as examples of WISE (but not defined as social enterprises by the Slovenian legislation) rely much more on classical hierarchical management, as already indicated by the previous research [44]. The comparison in this regard is presented in Table

**Table 5: Evaluation of the implementation of organisational criteria for social enterprises in Slovenia**

	Implementing the organisational criteria for social enterprises: autonomy	Implementing the organisational criteria for social enterprises: democratic leadership not conditioned by the capital investment / different stakeholders engaged in management
Registered social enterprises	++	++
NGOs	++	++
Cooperatives	++	+
Disability companies	0	0
Employment centres	+	0
Companies with social impact	+	0

Legend: ++ = mostly true, + = partly true, 0 = mostly not true

Adapted from: Pomenik and Česnik, 2015, p. 48 [44]



Regarding the leadership styles, the successful organizations reported nurturing the democratic decision-making process and encouraging employee autonomy. The value of employee autonomy was emphasized as present both in the field of day-to-day tasks) and as an asset for attracting new employees. The democratic decision-making process was reported as present at almost all organizations, regardless of their legal form. However, when it came to limited liability companies, there was a distinction between those where the owner/CEO/director figure was more influential than other members of the organization were, and those that operated in a way which is more associated to “the pure” democratic decision making process.

Work organization seemed to be connected to the size/developmental level of an organization. Namely, smaller organizations tended to have an executive who is in charge of pretty much everything. On the other hand, bigger/more developed organizations have more diverse division of labour. Furthermore, another significant aspect of work organization was outsourcing; many organizations used a wide range of vital business services from external actors (legal services, bookkeeping, PR etc.).

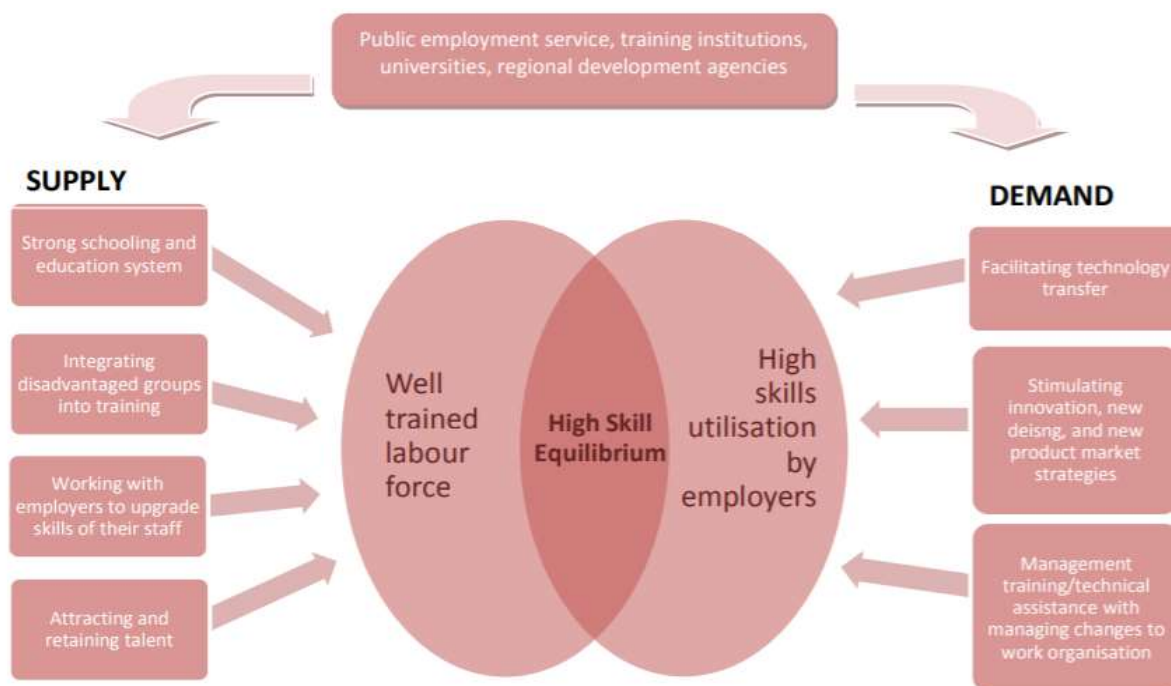
The skills relevant for management can also be gained through strong collaboration with different stakeholders within the same sector or beyond it.

## 4. GOOD PRACTICES: EDUCATION, MARKETING, PRODUCTS, SERVICES

OECD identifies 4 sectors that influence over skill supply and demand: education and training, skill flow, context for deployment and nature/design of products or services. Education and training translates to sound training and skills development in a variety of local colleges and universities as well as Youth Entrepreneurship Stimulation (YES) training in already established social enterprises to create the liaison with the nature and design of the product or service offered, creating therefore a circular development, replacement and multiplication of social skill supply. Enhancing the talent flow refers to improving the access to work for the disadvantaged: single mothers (through flexible schedule and/or part-time employment implying the necessity for good local child services to safety-net the single parent families), long term unemployed persons (through efficient ALMP strategies in coordination with local social services and regulatory incentives for labor market inclusion). The design of innovative product market strategies (especially in tourism and/or agriculture) can boost both skill demand as well as supply contributing to closing the gap of skill shortage. Therefore, the second primordial role played by a local education and training institution in the transformation to higher value-added products as well as market strategies.



Table 6: Conceptual framework for skills in Social Economy



Source: [50]

On one hand, the rule of thumb in skill development has been the supply-side base with a current national focus on school-work transitions/apprenticeships, vocational training and life-long learning, mostly due to the funding instrument used to implement economic development policies and fund investment in productivity and innovation at regional level, namely the European Social Fund. Prof Sergio Destefanis (2012) finds that the implementation of such demand-side policies and programmes in Italy are often beset by delays in implementation and are characterized by fragmentation at local level. Besides technical competency, informal skill development - such as social skills, communication, critical assessment, organizational and new media promotion skills - have also been emphasized as seminal in enhancing the third sector activity.

Based on the qualitative part of the in-depth studies conducted, we can say that the important advantage of WISEs is when they invest in **innovation**, **creativity** and business strategies that ensure their unique and competitive position in the market. This can refer to **unique products** that can be sold on market or it can refer to general orientation of the WISE **supporting sustainability aspects** of environment and society

When vulnerable groups are integrated not just into production but also into creativity process, the overall results of the enterprise are better. In that regard, it has been emphasised that of great importance is a good working atmosphere, referring especially to the possibility to interchange ideas and having opportunity to participate in management of work at least to a certain extend. The important element is also a close linkage between working and personal interest. When employees are **pursuing the same goals** and are doing their working obligations “with heart”, having a feeling that they contribute something good to society and to themselves, they also achieve better business result.

Strong connections with a **local community** often turn out into fruitful collaboration on a local level with the same sector. Those connections are of great help in getting new customers, who are successfully attracted through **organising special events, festivals for potential customers, partners and other relevant actors**. These events can take a form of specific education and trainings, local fairs for selling





products, or other events. They are also a good opportunity for getting new competences and skills on a managerial level and among vulnerable groups.

As bearers of sustainable values and innovative methods they can have an important role in spreading good practices and encouraging other WISEs to attain better performances on the market and in achieving social dimensions

When supporting innovative methods and creativity processes, the need for ICT in working process often comes to the fore.

WISEs with more branched network of partners and customers show better results in at least two dimensions of social entrepreneurship (e.g. business and social dimension). Important role is played by connections with local community, municipalities, NGOs. The advantage is when one is active in a social economy association or if one has productive linkages with HEIs, which encourage innovation and offer survey results in the market or provides expert opinions.

It is important to have access to information, but also to be able to properly interpret it. The compilation, exchange and interpretation of information, which are crucial for WISE, are internal or external.

The former refers to regular evaluation of work process, which successful WISEs often emphasized in the interviews. Regular evaluation allows one to identify certain mistakes and inconsistencies in the working environment and enables to plan future activities more efficiently. Successful WISEs claimed to organize such evaluations at least once per month. Such evaluations also contribute to better marketing strategies and education trainings, which are thus adapted to their special needs.

The advantage are also regular trainings and education. It has been emphasized that it is important to plan education activities in advance. They should be based on consultation with employees. There are trainings for certain forms of WISE, which are prescribed by the law (for mentors working with vulnerable groups additional trainings should be organized at least twice per year) but there should be more of them - **adjusted to their needs**. Respondents also emphasized that vulnerable groups should be regularly trained and encouraged to gain new competences and skills. Especially in the beginning, they should be trained and integrated properly into working process.

The education can be external and internal. While the former allows new knowledge, the latter especially enables greater flexibility and adaptability of employees. This is especially important for the mentors who guide and control the integration of disadvantaged groups into work. Regular education for the mentors also imply that they are more skilled for motivating disadvantaged groups.

The important aspect of education refers also to intergenerational cooperation personal growth.

Based on the stakeholders' meeting, we can say that technology is the theme that the whole meeting revolved around. Participants perceived innovation as necessary through the apparent lack of IT skills.



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