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Impact methodological framework

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Authors	Birgit Strasser, Claudia Knobloch, Stephen Fox for objective 4
Reviewers	Adriano Mauro (Prototipi), Digital Hub Management GmbH (DHM)
Abstract	The impact methodological framework describes the key components to systematically assess and evaluate DIGILOGIC's impact and success towards reaching its objectives, lessons learned, and best practices. It defines the preliminary indicators, data collection tools, schedule, and responsibilities to ensure a high-quality and useful internal evaluation of DIGILOGIC during the project's run time. The framework is preliminary and will be updated continuously throughout project implementation.
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PU	Public, fully open, e.g. web	√
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*** R:** Document, report (excluding the periodic and final reports)
DEM: Demonstrator, pilot, prototype, plan designs
DEC: Websites, patents filing, press & media actions, videos, etc.
OTHER: Software, technical diagram, etc.

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EXECUTIVE SUMMARY

This document presents the **preliminary impact methodological framework of the DIGILOGIC project**. The framework was designed during the project's early stage and is a living document. The framework, indicators and evaluation instruments will be continuously updated to be fully aligned with the details of project tasks while allowing for flexibility to integrate emerging questions, findings and lessons learned throughout the project.

To develop this framework, we followed a **participatory approach** taking the objectives set out by the Grant Agreement as the starting point. In bilateral discussions with each work package and task leader, we brainstormed on adequate outcomes and means of data gathering. Several discussions with the whole consortium were organised to discuss and harmonise the framework's key guiding principles and cornerstones. Review rounds accompanied the discussions to gather specific feedback and input of all consortium members and adapt the framework accordingly.

DIGILOGIC puts great emphasis on the **systematic assessment and evaluation of the project**. The preliminary framework thus aims to include multidimensional stakeholder feedback and perspectives throughout the evaluation activities to

- **provide key insights and action-driven feedback** to support project execution at all stages.
- assess **to what extent DIGILOGIC is reaching its five project objectives**.
- **detect challenges, important lessons learned, best practices and recommendations** that enable stakeholders, partners, the European Commission and others to learn from DIGILOGIC's successes and challenges.

The framework is **aligned to the tasks and direct actors, target groups, and beneficiaries of the DIGILOGIC** project to gather observable and useful information within the complex and interlinked African smart logistic ecosystem. DIGILOGIC's evaluation activities include the following actors: the DIHs of the DIGILOGIC consortium; ecosystem stakeholders engaged in the DIGILOGIC network such as logistic providers, financing bodies, development partners, research institutions and others; innovators, startups and ICT professionals involved in DIGILOGIC's Ground (WP2), Learn (WP3) and Implementation programmes (WP4), African youth involved in capacity building and employment support activities.

Collaboratively a set of indicators were elaborated. **This framework focuses on Key Performance indicators** (KPIs) **and intermediate outcome indicators**. KPIs are a source of continually growing quantifiable numbers that show the main activities offered by DIGILOGIC (e.g. the number of training, participants or proposals received). KPIs are a prerequisite for outcomes to take place. Intermediate outcomes provide information about key project stakeholders benefits, focusing on DIGILOGIC's effect on awareness, learning and collaboration. They are considered decisive to reach any long-term outcomes. The preliminary indicators for each objective are presented in detail in the logical framework (section 2), with evaluation questions, means of verification, and potential assumptions and risks outside the control of DIGILOGIC but which may negatively influence the outcomes. **Indicators for DIGILOGIC's long-term outcomes** are outside of the scope of this deliverable. They will be reported in deliverable 5.4. Exploitation and sustainability strategy and deliverable 5.7. Final exploitation and sustainability plan based on work carried out in task 5.4 sustainability and exploitation plan.

To collect data, DIGILOGIC uses a mixed-method approach. A set of quantitative-centred tools (baselines and results surveys, social network analysis, E-Learning platform analytics) will be used throughout project implementation and for specific project tasks. The qualitative-centred tools (interviews, focus group discussions, cases stories) will be used during the mid- and end-project evaluation. The latter supports the former and enables identifying the main issues, lessons learned, and best practices. The initial set of evaluation instruments are displayed in the Annex. As concrete questions can only be defined in detail once other project steps are completed and the design of the task finalised, the development of these evaluation instruments is ongoing.

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ABBREVIATIONS

B-Hive	BongoHive Innovations Limited
DIH/DIHs	Digital Innovation Hub/Digital Innovation Hubs
DHM	Digital Hub Management GmbH (formerly EffizienzCluster Management GmbH – ECM)
FINN	Friuli Innovazione Centro di ricerca e di trasferimento tecnologico scarl
GA	Grant Agreement
HLAB	High Level Advisory Board
ICT	Information and communications technology
KPIs	Key Performance Indicators
MEST	Meltwater Entrepreneurial school of technology
IIB	Innovation and Impact Board
M&E	Monitoring & Evaluation
MSMEs	Micro, small and medium enterprises
PROTON	Prototipi Nigeria Ltd.
SME	Small and medium-sized enterprise
SNA	Social Network Analysis
VJF	Virtual Job Fair
VTT	Teknologian tutkimuskeskus VTT Oy
WP	Work package

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1 INTRODUCTION

This document presents the **preliminary general approach of DIGILOGIC's impact methodological framework**. The framework needs to be understood as a **living document that will be updated continuously throughout the project's run time**.

The present framework was designed during the early stage of the project with details and specifications of project activities not fully defined. These details are necessary for a project-specific and insightful impact methodological framework. **Furthermore, for an innovation project like DIGILOGIC, flexibility and openness to new findings are particularly relevant.** This context explains the preliminary nature of the present impact methodological framework, the need for its continuous adaptation and alignment of the indicators and applied evaluation instruments.

Adaptation and alignment throughout the project's run time will be coordinated and designed in close cooperation with the DIGILOGIC consortium, WP, and task leaders. This approach will ensure a high-quality impact methodological framework that considers the details of project activities, emerging questions and lessons learned.

1.1 PURPOSE OF FRAMEWORK

The vision of DIGILOGIC is to boost the cooperation and strategic partnership between European and African Digital Innovation Hubs (DIHs) by developing the Pan EU-Africa DIGILOGIC Hub: the first EU-AU decentralised DIH dedicated to smart logistics. DIGILOGIC will foster the creation of a community of stakeholders to stimulate, shape and foster the development of emerging technologies for smart logistics solutions through the deployment of a dynamic and impactful knowledge transfer and implementation programme. The critical mile was identified as DIGILOGIC's focus system for smart logistics in Africa as part of a visioning exercise in the early stage of project implementation.

DIGILOGIC has identified a set of specific, measurable, achievable, tangible and time-relevant objectives to achieve its vision. The present **impact methodological framework aims to:**

- **assess to what extent DIGILOGIC is reaching its five project objectives**.
  - **Objective 1:** To build bridges between islands of innovation between and within EU and Africa: establish a Pan EU-Africa network of initially 5 DIHs focused on the topic of smart logistics and achieve seamless collaboration between the hubs and their pool of emerging technology innovators.
  - **Objective 2**: To strengthen the DIHs technology transfer capabilities to advance African innovators and ICT professionals for better job opportunities.
  - **Objective 3**: To empower African youth, especially women and vulnerable groups, with entrepreneurial and digital literacy skills to significantly increase good quality employment opportunities, including self-employment.
  - **Objective 4**: To demonstrate the market relevance of the DIGILOGIC network of DIHs engaging at least 200 EU-AU innovators in the call for Challenges, participating in 12 collaborative projects, and creating value in different use cases.
  - **Objective 5**: To ensure post-project sustainability and growth of the DIGILOGIC ecosystem.
- provide **key insights and action-driven feedback** to support project execution at all stages.
- detect challenges, **important lessons learned, best practices and recommendations** that enable stakeholders, partners, the European Commission and others to learn from DIGILOGIC's successes and challenges.
  - **Learning** is especially relevant for DIGILOGIC's impact methodological framework. As an innovation project which tests new approaches and solutions to complex problems, challenges during project implementation are likely. With DIGILOGIC's high ambition to positively influence Africa's complex smart logistic ecosystem, accountability for what was learned is thus considered equally important than the results achieved. This learning focus enables us to understand factors contributing to success and failures—an important precondition to use learnings for projects and interventions in the future.

Considering that most DIGILOGIC activities will be implemented in the 2nd half of the project (e.g. the 12 Challenges projects, the Inclusive digital and entrepreneurship capacity building programs for African Youth, the Co-Creation IMPACT labs), **the mid-evaluation will have a strong focus on gathering qualitative insights and lessons learned mid-way** through to support project execution in the 2nd half. Only during the end-evaluation it will be possible to

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assess DIGILOGIC's success toward reaching its project objectives through multidimensional stakeholder- and beneficiary feedback.

DIGILOGIC aims to contribute to a systemic change in the African smart logistic ecosystem. It operates in a complex ecosystem, influenced by many inter-related complex systems that are involved in logistics in and between Africa and Europe. In this complex system, many different causes often have to come together to effect change. Innovation never occurs alone but always within the context of structured relationships, infrastructures and a wider social and economic environment. Designing an impact methodological framework suitable for gathering observable and useful information within this context, DIGILOGIC considers the close alignment to the tasks and direct actors, target groups and beneficiaries essential. The following system boundaries should enable a realistic and manageable framework. The **focus lies on the actors listed below.**

DIHs of the DIGILOGIC consortium: considered as key players in the ecosystem that can catalyse the development, investment and uptake of smart logistic solutions. Know-how exchange, collaboration and strategic partnership between the African and European consortium DIHs, should strengthen a common EU-Africa innovation and startup ecosystem to support the digital transformation in Africa's logistic sector.

Ecosystem stakeholders engaged in the DIGILOGIC network: to actualise DIGILOGIC's vision, the engagement of key stakeholders (e.g. logistic providers, financing bodies, development partners, policy makers, research institutions and academia and many others) is needed, aiming to lead a path for creating and enabling an environment for collaborative digital EU-African solutions. A comprehensive involvement and contribution in the project and the project's operations is required to consider an ecosystem stakeholder engaged.

Innovators, startups and ICT professionals: involved in DIGILOGIC's Ground (WP2), Learn (WP3), and Implementation programmes (WP4). Involvement varies among this group, ranging from the sole participation as a learner on the E-Learning Platform (enhancement of entrepreneurial and innovation skills and the creation of networking opportunities) to the participation in the 4 Challenges collaborative project (individual mentoring to showcase strong use cases and business models).

African youth: involved in capacity building and employment support activities to foster youth employment in the targeted countries while satisfying the demand for qualified, skilled labour.

This framework is designed to identify the outcomes achieved for each target group mentioned above as well as the outcomes contributions towards the systemic inhibitors and levers of change identified in the African logistic sector (specified in deliverable 1.1 Vision and stakeholder list and 1.2. Ecosystem map).

1.2 METHODOLOGY

The **five project objectives set out in the Grant Agreement were the starting point** for the impact methodological framework. The design of the framework followed a participatory approach. In bilateral discussions with each WP and task leader, we brainstormed on adequate outcomes and means of data gathering. Multiple discussions with the whole consortium were organised to discuss and harmonise the impact methodological framework's key guiding principles and cornerstones. Review rounds accompanied the discussions to gather feedback and input of all consortium members and adapt the framework accordingly.

The following key criteria guided the tailored and context-specific framework design:
Utility, i.e. serving the information needs of intended users
Feasibility, i.e. realistic (as simple as possible), prudent methodologies, procedures and practical considerations;
Propriety, i.e. considering legal and ethical requirements and appropriateness
Accuracy, i.e. revealing technically adequate information
Learning, i.e. contribute to learning and facilitate evidence-based action and steering of activities

Collaboratively, a set of specific, observable, and measurable preliminary indicators was developed. In the framework, the focus solely lies on **Key Performance Indicators (KPIs) and intermediate outcomes**.

Key Performance Indicators: are directly measurable and quantitative measures (e.g. # of participants, # of training, # of proposals received). They are considered a precondition to reach any outcomes. The KPIs displayed in the impact methodological framework are the ones identified in the project's Grant Agreement (GA).

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Intermediate outcome indicators: provide information about key project stakeholders benefits, focusing on DIGILOGIC's effect on awareness, learning and collaboration. They are considered decisive to reach any long-term outcomes.

The impact methodological framework provides **a set of evaluation instruments to capture the information needed for each indicator**. The framework is designed to include multidimensional stakeholder feedback and perspectives throughout. This will enrich the evaluation results and ensures to counteract any potential bias a single perspective might have. The framework thus follows a mixed-method approach [1]. **A mix of quantitative** (baselining and results surveys, social network analysis) **and qualitative** (interviews, focus group discussions, case stories) **research tools are applied** in an integrated design to enrich the process and provide more insightful understanding. The sequence of the mixing is such that the quantitative tools support the qualitative ones. While the quantitative tools are used throughout project implementation, the qualitative tools are used, especially during the mid- and end-project evaluation. The latter will thus enable DIGILOGIC to identify the main issues and complete or obtain information not provided by the quantitative surveys. By appropriately combining quantitative and qualitative techniques, it allows for a comprehensive understanding of the project's accomplishments and the lessons learned.

It is currently foreseen to use a 5-point interval likert response scale with values from 1 (e.g. strongly disagree/very dissatisfied) to 5 (e.g. strongly agree/very satisfied) in the quantitative-centred surveys. The likert scale is one of the most fundamental and frequently used scaling methods in social science research.[2] Using the 5-point rating scale was influenced by the following factors: 1/ allowing respondents to select a balancing item between positive and negative responses; 2/ it is commonly used, simple to understand and to use for respondents; 3/ 5-point scales fit better on mobile devices screens than higher-point scales; 4/ one of the African consortium partner is using a 5-point scale in its individual internal evaluation activities, indicating that the scale is culturally appropriate for the African target group. All scores are calculated as unweighted means across these scales. The scores will consequently have a value between 1 and 5, with 3 as a balancing point between positive and negative responses. The higher the score, the more positive are the respondents. Where possible, data results will be displayed by type of key ecosystem stakeholder and socio-demographic factors such as gender and country of origin. For the qualitative methods, specific semi-structured interview guidelines and focus group discussion concepts will be developed per target group. 3-point response scale will be used for joint in-process continuous monitoring during the 12 implementation projects within Task 4.5. during which mentoring and access to facilities will be co-designed by DIHs and 12 challenges teams. Responses will be inputted into progress trend charts to map progress and inform joint continuous improvement during the 12 challenge projects. Example progress trend chart is shown later in this deliverable in the sub-section for Objective 4: section 2.4.

Limits of the M&E Framework

Long-term outcomes, defined as measures for DIGILOGIC's long-lasting impact on lives, organisations, businesses and the ecosystem overall (positive improvements, unintended effects), are not part of the present framework. This decision was taken with the consortium to ensure credibility for the assessment of long-term outcomes while focusing on the changes that are achievable within the given project timeframe. For innovation projects like DIGILOGIC, this is especially relevant as innovation intend to diffuse in waves.[3] The time when results will be

[1] Fore more detail see Bamberger, 2012, Introduction to mixed methods in impact evaluation. https://www.interaction.org/wp-content/uploads/2019/03/Mixed-Methods-in-Impact-Evaluation-English.pdf

[2] Taherdoost, Hamed, 2019, What is the best response scale for survey and questionnaire design; Review of different lengths of rating scale / attitude scale / likert scale. https://www.researchgate.net/publication/343994538_What_Is_the_Best_Response_Scale_for_Survey_and_Questionnaire_Design_Review_of_Different_Lengths_of_Rating_Scale_Attitude_Scale_Likert_Scale

[3] The Geography of Transport Systems, Long Wave Cycles of Innovation. https://transportgeography.org/contents/chapter3/transportation-and-economic-development/innovation-long-wave-cycles/

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achieved is thus not predictable, and large parts of the results may have a real impact not during the runtime of the project but after termination.

To ensure a credible assessment of DIGILOGIC's long-term outcomes, the evaluation activities (Task 5.3.) and the sustainability and exploitation activities (Task 5.4) will be closely aligned. This close alignment will ensure efficiency (survey designed to feed into information need of both) and depth of detail (exploitation and sustainability strategy can build and deepen evaluation results). DIGILOGIC's long-term outcomes will thus be reported in the deliverables related to Task 5.4, building on and being aligned with Task 5.3.

It is also important to note that to avoid repetition, the indicators in deliverable **5.1 Outreach and impact creation strategy and plan are not included in the present framework**. Deliverable 5.6 Second impact creation and activities report will be developed in close collaboration with PROTON, leading WP 5 and the outreach activities. Also, to avoid repetition, monitoring and evaluation for Objective 4 is dealt with by Task 4.5, which will involve in-process joint continuous improvement between the DIGILOGIC DIHs and the 12 external project teams addressing challenges in digital logistics: i.e. the 12 challenges teams.

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2 LOGICAL FRAMEWORK

Section 2 contains the **key framework components.**

The section is **structured as follows**.

At the start, a 1-**page overview table** presents the structure and key components of DIGILOGIC's preliminary impact framework.

Afterwards, **each project objective** (objective 1 to objective 5) is presented in detail. The information provided for each project objective is structured as follows:

- At the start, an **overview of the key project tasks** supporting this objective, followed by the key evaluation targets, is provided.
- The **list of KPIs** supporting this objective follows (as displayed in the GA, table 4).
- Afterwards, the **outcome indicators**, as well as evaluation questions and means of verification, are displayed in an overview table. This table also includes the most relevant assumptions and risks for each indicator. These assumptions and risks highlight the conditions necessary and risks likely to influence DIGILOGIC's outcomes, but which are largely or completely beyond the control of DIGILOGIC.

A **detailed description for each outcome indicator** is provided afterwards, where the purpose of the indicator and the insight the indicator provides from an ecosystem perspective is highlighted. Details on data collection and analysis, responsibilities and reporting for this respective indicator are also specified.

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TABLE 1: KEY FRAMEWORK COMPONENTS

DIGILOGIC Project Objectives		**Objective 1** To build bridges between islands of innovation between and within EU and Africa: establish a Pan EU-Africa network of initially 5 DIHs focused on the topic of smart logistics and achieve seamless collaboration between the hubs and their pool of emerging technology innovators.	**Objective 2** To strengthen the DIHs technology transfer capabilities to advance African innovators and ICT professionals for better job opportunities.	**Objective 3** To empower African youth, especially women and vulnerable groups with entrepreneurial and digital literacy skills to significantly increase good quality employment opportunities, including self-employment.	**Objective 4** To demonstrate the market relevance of DIGILOGIC network of DIHs engaging at least 200 EU-AU innovators in the call for Challenges, to participate in the collaborative projects, and value creation in different use cases suggested by stakeholders needs.	**Objective 5** To ensure post project sustainability and growth of the DIGILOGIC ecosystem.
KEY PROJECT TASKS INVOLVED		Task 1.1 Visioning process Task 1.2 System mapping Task 1.3 Ecosystem engagement	Task 3.2 Peer learning Task 3.1 E-Learning Platf. Task 3.4 Co-creation IMPACT labs	Task 3.3 Capacity building program / Virtual Job Fair (VJF)	Task 2.3 Smart logistics mentoring Task 4.1 - Task 4.5 12 Challenges projects	Task 1.3 Ecosystem engagement Task 5.4 Sustainability and exploitation plan
INDICATOR	**KPIs**	KPI summary included per objective below				
	Outcomes	• Level of satisfaction of key ecosystem stakeholders / project participants • Type of key ecosystem stakeholders engaged in the network • Level of awareness on smart logistics / at the critical mile among network members • Level of collaboration within the network, between Africa and Europe	• Perceived quality, benefits and synergies of know-how exchange and collaboration between consortium DIHs • Upskilling supported and networking opportunities created for African innovators and ICT professionals	• # of African youth participants that improved skills at the end of the 1-month course • # of African youth participants that use acquired skills • # of African youth participants that established a connection with an VJF employer / found employment	• Effects of mentoring and access to facilities on the capabilities of the 12 teams participating in the Challenges projects • Effects on the DIHs´ capabilities from working with the 12 teams participating in the Challenges projects	• Post-project continuation options secured/in development
EVALUATION INSTRUMENT	**Mixed**	DIGILOGIC_KPIs-review, E-Learning platform analytics, progress reports, bi weekly project's partners meeting minutes, deliverables				
	Quantitative-method	○ Social Network Analysis (SNA) at mid- and end-evaluation	○ Peer-learning survey ○ E-Learning Platform analytics ○ Survey for the *Co-creation IMPACT labs*	○ Base- and Endline-survey ○ Knowledge test ○ Survey 3 to 6-month after the VJF	○ Rating of anticipated effects during monthly progress meetings ○ Concluding rating during final monthly progress meeting	-
	Qualitative-methods	○ Focus group discussion with consortium ○ Focus group discussion with HLAB, IIB (availability not yet confirmed)	○ Interviews and focus group discussion with consortium ○ Case story interview	○ Interviews with selected consortium members	○ Examples of anticipated effects during monthly progress meetings ○ Examples of anticipated and actual effects during final monthly meeting	○ Interviews and focus group discussion consortium

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2.1 OBJECTIVE 1

To build bridges between islands of innovation between and within EU and Africa: establish a Pan EU-Africa network of initially 5 DIHs focused on the topic of smart logistics and achieve seamless collaboration between the hubs and their pool of emerging technology innovators.	
Key project tasks involved	• Task 1.1. Creating a common vision and bringing in key stakeholders into the initiative • Task 1.2. Rapid system mapping and opportunity spotting • Task 1.3. Ecosystem engagement
Target groups of evaluation activities	Consortium members Ecosystem stakeholders engaged in the network (e.g. new DIHs, logistic providers, financing bodies, research institutions and academia a.o.), such as stakeholders involved in the High Level Advisory Board (HLAB); Innovation and Impact Board (IIB) Participants of DIGILOGIC's Ground, Learn, and Implementation programmes

KEY PERFORMANCE INDICATOR	**MEANS OF VERIFICATION (Where / how to get information)**
# of 1-to-1 interviews with stakeholders (M18: 20; M36: 40)	• Excel-checklist: DIGILOGIC_KPIs-review • Progress reports
# of basic training on system thinking to DIGILOGIC DIHs (M18:1; M36: 1)	
# of partners and key stakeholders outside consortium identified (M18: 25; M36: 50)	
# of webinars with key stakeholders (M18: 3; M36: 6)	
# of periodic calls with key stakeholders (M18: 3; M36: 6)	
# of mailing list members (M18: 200; M36: 500)	
# of HLAB created (1)	
# of new AU stakeholders engaged in activities related to EC funded projects (M18: 4; M36: 10)	
# of established relationships with AU universities, vocational training centres (M18: 5; M36: 10)	

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EVALUATION QUESTION	OUTCOME INDICATOR	MEANS OF VERIFICATION (Where / how to get information)	ASSUMPTION/ RISK
What is the level of satisfaction of key ecosystem stakeholders engaged in the DIGILOGIC network? What is the level of satisfaction of participants of DIGILOGIC's Ground, Learn, and Implementation programmes? Note: satisfaction based on individual expectations	• Level of satisfaction of key ecosystem stakeholders/project participants with program aspects participated in	• Inclusion of satisfaction questions in the Social Network Analysis (SNA) and the tools for DIGILOGIC's Ground, Learn, and Implementation programmes	Individual expectations may not be consistent with DIGILOGIC's propositions → expectations thus gathered in surveys → provide learning on the quality of selection Potential bias and limited learning opportunity if only satisfaction of external project participants considered.
What is the composition of the DIGILOGIC network? Are key stakeholders engaged that are decisive to reach DIGILOGIC's vision? How does the composition changes over time?	• Type of key ecosystem stakeholders engaged in the DIGILOGIC network	• SNA	Key network members may not fill in the SNA survey; thus, important actors and information is missing.
Did DIGILOGIC contribute to transparency in the network? Are there any professional and/or organisational changes within the key ecosystem stakeholders engaged?	• Level of awareness and information on smart logistics / at the critical mile in Africa among network members (on actors, structure, digital transformation opportunities)	• SNA • Focus group discussion with consortium	
What is the depth of relationship and collaboration within the network? Which ties between actors were established? Are there actors in the network that function as a key coordinator? Are there weaknesses in the network? How does that change over time?	• Level of collaboration within the network overall, between different network members, and between African and European members	• SNA • Focus group discussion with consortium • Focus group discussion with HLAB, IIB (availability of HLAB and IIB not yet confirmed)	

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Indicator	**Level of satisfaction of key ecosystem stakeholders/project participants with project aspects participated in**
Definition / Purpose	This indicator assesses the overall satisfaction level, based on individual expectations, of a variety of ecosystem stakeholders involved in DIGILOGIC project activities and the network. A high level of satisfaction with the specific project aspects participated in is considered a precondition for learning (participants of the training, mentoring) and long-term collaboration between DIHs and the network overall.
Baseline	n/a
Data collection / Frequency	Satisfaction question is integrated with quantitative surveys used
Data analysis / Quality control	Mean values from the sum of respondents per target group will be calculated. The mean values will lie between 1 and 5. The higher the mean value, the more satisfied are the respondents. Satisfaction results will always be feedbacked to the activity and WP leaders throughout the project. The perspective of the trainers, mentors and DIHs will be equally considered to avoid a potential bias by solely depending on one single perspective and to foster learning on why something worked well and why others may not.
Responsible	Endeva
Reporting	First impact creation and assessment report (D5.3), due M18 Final outreach and impact creation activities report (D5.6), due M34. Project activity specific deliverables (e.g. D3.4, D3.5) will also be able to display satisfaction results.

Indicator	**Type of key ecosystem stakeholders engaged in the DIGILOGIC network**
Definition / Purpose	This indicator assesses the type of key ecosystem stakeholders engaged in the DIGILOGIC network overall, as well as the ecosystem stakeholders from Africa and Europe. For DIGILOGIC to actualise its vision, the engagement of key ecosystem stakeholders is needed. This indicator thus enables insights into the network and identifies if and to what extent key ecosystem stakeholders are engaged.
Baseline	SNA data in 2022 (at mid-term) compared with SNA data in 2023 (end-term)
Data collection / Frequency	SNA survey used recurring during mid- and end evaluation
Data analysis / Quality control	Ecosystem stakeholders' engagement will be presented per key stakeholder group and country of origin. Only stakeholders that are comprehensively involved in the project and that contribute to the project's operations will be included in the evaluation activities. This definition and selection will ensure to gather useful network data from stakeholders that can provide insights. Based on the definition above, the network members engaged will be proposed by the consortium, WP and task leaders involved in implementation. The final decision on who to include will be taken by Endeva.
Responsible	Endeva, Consortium to provide the organisations' names and e-mail addresses of the key contact person.
Reporting	First impact creation and assessment report (D5.3), due in M18 and the Final outreach and impact creation activities report (D5.6), due M34.

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Indicator	**Level of awareness and information on smart logistics / at the critical mile in Africa among network members (on actors, structure, digital transformation opportunities)**
Definition / Purpose	This indicator assesses if, and to what extent, DIGILOGIC contributes to the awareness of key ecosystem stakeholders engaged in the network. Transparency and access to readily available information for all parties was identified as a key lever for change in the ecosystem, that will provide incentives for collaboration.
In Baseline	SNA data in 2022 (at mid-term) compared with SNA data in 2023 (end-term)
Data collection / Frequency	SNA survey used recurring at mid- and end-evaluation
Data analysis / Quality control	The SNA survey consists of several questions that enable to evaluate if and how awareness of network members changed through DIGILOGIC. Mean values from all respondents will be calculated, thus enabling us to see a positive/negative development. Mean values at mid-project and end-project will be compared. Where applicable, awareness changes per key ecosystem stakeholder group will be calculated and analysed. The SNA survey has been collaboratively developed with the consortium. The survey will be tested with the consortium before it is sent to the key ecosystem stakeholders. In case important network members did not fill in the survey, a reminder will be sent once.
Responsible	Endeva
Reporting	First impact creation and assessment report (D5.3), due in M18 and the Final outreach and impact creation activities report (D5.6), due M34.

Indicator	**Level of collaboration within the network overall, between different network members, and between African and European members**
Definition / Purpose	This indicator assesses the connections within the DIGILOGIC network and between different actors in the network. The indicator thus allows to examine, collaboration intensity, potential network clusters, actors that act as key coordinators in the network overall or between clusters, a.o. The design, results, analysis and mapping of the SNA-data will further feed into task5.4. Fostering collaboration within the ecosystem was identified as a leverage point for change.
Baseline	SNA data in 2022 (at mid-term) compared with SNA data in 2023 (end-term)
Data collection / Frequency	SNA survey used recurring at mid- and end-evaluation; Focus group discussions to be held at mid- and end-evaluation
Data analysis / Quality control	SNA data will be used to map the DIGILOGIC network and provide a graphical representation. Visually depicting the network allows exploring the connections and patterns that exist in the network. By using the SNA during the mid-evaluation and the same survey again during the end-evaluation allows us to see changes over time. The visualised map combined with the findings and assumptions drawn by Endeva's first analysis, will be further discussed and analysed in the focus group discussions. This will allow understanding the strength of the network (e.g. what ties were established, which actors function as key coordinators) and its potential weaknesses (e.g. are actors/groups segregated)
Responsible	Endeva
Reporting	First impact creation and assessment report (D5.3), due in M18 and the Final outreach and impact creation activities report (D5.6), due M34.

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2.2 OBJECTIVE 2

To strengthen the DIHs technology transfer capabilities to advance African innovators and ICT professionals for better job opportunities.	
Key project tasks involved	• Task 3.1.: Design, set up and manage the DIGILOGIC eLearning platform • Task 3.2.: Peer learning between EU-AU DIHs • Task 3.4.: Co-creation IMPACT labs
Target groups of evaluation activities	DIHs of the DIGILOGIC consortium Users on the E-Learning Platform Participants of the *Co-creation IMPACT labs*

KEY PERFORMANCE INDICATOR	MEANS OF VERIFICATION (Where / how to get information)
DIGILOGIC DIH Peer-learning	• Progress report
# of DIHs peer-learning study visits (M18: 3; M36: 3)	
DIGILOGIC: Ground, Learn, and Implementation programmes	• Excel-checklist: DIGILOGIC_KPIs-review
# of AU innovators engaged in DIGILOGIC project activities (M18: 500; M36: 1000)	
E-Learning Platform	• Excel-checklist: DIGILOGIC_KPIs-review • E-Learning Platform logs
# of participants to the E-Learning Platform (M18: 500; M36: 1000)	
Co-creation IMPACT labs	• Excel-checklist: DIGILOGIC_KPIs-review (FINN) • Progress report
# of co-creation impact labs organised (M36: 6)	
# of total participants (M36: 180)	

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EVALUATION QUESTION	OUTCOME INDICATOR	MEANS OF VERIFICATION (Where / how to get information)	ASSUMPTION/ RISK
To what extent were DIGILOGIC activities able to foster a valuable exchange of experience among European and African DIHs? Are there any perceived synergies resulting from this Pan African-EU DIH collaboration? What worked well and why? Which challenges were encountered? Are there any specific conditions critical for benefits and synergies to evolve?	• Perceived quality, benefits and synergies of know-how exchange and collaboration between consortium DIHs	• Survey for peer-learning • Interviews and focus group discussion with consortium • Case story interview	Due to COVID-19, there is reduced opportunity for the consortium to meet in person (initially planned 3 study trips on-site are reduced to one - feasibility still unclear at this stage, most exchange and peer-learning is changed to remote versions). Interactions in person and on-site is considered crucial for a valuable exchange, and DIGILOGIC's success and sustainability overall. The absence/reduction of such may thus exhibit a negative influence.
Did Learners on the E-Learning Platform use the training courses and resources available? To what extent did DIGILOGIC support the upskilling of African innovators and ICT professionals? To what extent did DIGILOGIC provide networking and business opportunities for innovators and ICT professionals? What worked well and why? Which challenges were encountered?	• Upskilling supported and networking opportunities created for African innovators and ICT professionals	• E-Learning Platform analytics • Survey for the *Co-creation IMPACT labs* • Case story interview	

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Indicator	**Perceived quality, benefits and synergies of know-how exchange and collaboration between consortium DIHs**
Definition / Purpose	This indicator aims to uncover the quality, benefits and synergies of the exchange and collaboration of the African and EU DIHs. The focus lies on the perception of the DIHs of the DIGILOGIC consortium. The organisational learning of the DIHs involved are assessed focusing on the key thematic areas of the peer-learning activities (inclusive entrepreneurship and innovative businesses; collaboration among corporates and entrepreneurs; business models for smart logistics solution at the critical mile; digital upskilling and reskilling initiatives). To further support learning, a strong focus of this indicator is on the potential benefits and synergies of such African-EU DIH collaboration, to uncover the conditions necessary and the lessons learned for effective collaboration. This indicator addresses the following levers of change identified in the ecosystem: DIHs learning and experience increases transparency and access to readily available information in the ecosystem; collaboration as DIHs play a facilitating role in the ecosystem, able to connect stakeholders
Baseline	n/a
Data collection / Frequency	Survey to be used for peer-learning; Interviews and focus group discussions at mid- and end-evaluation with the consortium DIHs, case story
Data analysis / Quality control	Analysis of peer-learning results will highlight the quality of know-how exchange, self-perceived learning and the potential differences between African and European DIHs of the consortium after the end of the peer-learning activities. At mid- and end-evaluation, through interviews with DIHs of the consortium, qualitative insights and anecdotes about individual perspectives and experiences will be gathered. Preliminary findings will be further presented and discussed with the whole consortium. This will allow uncovering benefits, synergies and critical conditions for successful know-how exchange and collaboration between African and European DIHs.
Responsible	Endeva
Reporting	First impact creation and assessment report (D5.3), due in M18 and the Final outreach and impact creation activities report (D5.6), due M34

Indicator	**Upskilling supported and networking opportunities created for innovators and ICT professionals**
Definition / Purpose	This indicator focuses on the upskilling and networking opportunities DIGILOGIC provides through the E-Learning Platform and the 6 Co-creation IMPACT labs. Technical capacity building and technology transfer, as well as networking between African and European stakeholders are considered important factors to stimulate, shape and foster the adoption of emerging technologies and create better job opportunities.
Baseline	n/a
Data collection / Frequency	E-Learning Platform analytics reported and analysed at mid- and end-evaluation; Surveys to be used for all of the 6 *Co-creation IMPACT labs*; case story interview at end-evaluation
Data analysis / Quality control	Data will be analysed and reported by gender, country of origin and type (startup, ICT professional; MSME). The availability of data for this indicator is not yet fully clear, as the E-Learning Platform is still in development and the Co-Creation IMPACT labs are not yet designed.
Responsible	Endeva; B-Hive to provide E-Learning Platform analytics; FINN to implement Co-Creation IMPACT labs surveys
Reporting	First impact creation and assessment report (D5.3), due M18; final outreach and impact creation activities report (D5.6), due M34; Co-creation IMPACT labs (D3.5)

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2.3 OBJECTIVE 3

To empower African youth, especially women and vulnerable groups with entrepreneurial and digital literacy skills to significantly increase good quality employment opportunities, including self-employment	
Key project tasks involved	• Task 3.3.: Inclusive digital & entrepreneurship capacity building programs for unemployed youth and vulnerable groups / Virtual Job Fair (VJF)
Target groups of evaluation activities	Participants (African youth) of the *Inclusive digital & entrepreneurship capacity building programs / VJF*

KEY PERFORMANCE INDICATOR	**MEANS OF VERIFICATION (Where / how to get information)**
Inclusive digital & entrepreneurship capacity building programs for unemployed youth	• Excel-checklist: DIGILOGIC_KPIs-review (FINN, MEST, B-Hive) • Progress report
# of capacity building programs delivered for youth (M18: 1; M36: 2)	
# of total training hours of 2 courses (M18: 60; M36: 120)	
# of youth participants in the capacity building programs (M18: 30; M36: 60)	
% of women participants (M36: ≥40%)	
# of participants successfully completing the course (M18: 25; M36: 50)	
Virtual Job Fair	• Excel-checklist: DIGILOGIC_KPIs-review (FINN, MEST, B-Hive) • Progress report
# of participants joining the Virtual Job Fair (M36: 60)	
# of potential employers attending the Virtual Job Fair (M36: 20)	

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EVALUATION QUESTION	OUTCOME INDICATOR	MEANS OF VERIFICATION (Where / how to get information)	ASSUMPTION/ RISK
Are the African youth participants demonstrating increased knowledge related to the content? What worked well and why?	• # of African youth participants that improved skills (entrepreneurship, digital literacy skills a.o) at the end of the 1-month course	• Base- and Endline survey + test for participants of the 1-month programs • Interview with selected consortium members	Low attendance in the programme likely results in little improvement.
To what extent can African youth that participated in DIGILOGIC's upskilling activities use the acquired knowledge and skills? Have African youth that participated in the Virtual Job Fair made connections with potential employers after the VJF? What were the outcomes of these connections? Did DIGILOGIC's upskilling activities and the VJF contribute to the employment (incl. self-employment, internships) of African youth in the logistic sector and beyond?	• # of African youth participants that use acquired skills after the programme • # of African youth participants that established a connection with a VJF employer six months after the VJF • # of African youth participants in employment (incl. self-employment, internships) 6 months after the VJF	• Survey for successful participants of the *Inclusive digital & entrepreneurship capacity building programs* and/or attendees of the *VJF*	Low survey response rate likely, due to survey timing after DIGILOGIC engagement Economic recession (global/national), influenced by COVID-19, may negatively affect the labour market (few jobs, high unemployment) → counteract DIGILOGIC efforts Participants may not actively search for jobs and/or choose a different path (education)

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Indicator	**# of African youth participants that improved skills (entrepreneurship, digital literacy skills a.o) at the end of the 1-month course**
Definition / Purpose	This indicator measures the improvement in knowledge and skills of African youth participants, considered a precondition for good quality employment/self-employment. Digital upskilling is addressing one of the main inhibitors identified in the ecosystem. This is the lack of digital literacy and readiness skills needed to develop and use smart logistics solutions.
Baseline	Baseline-survey at the start of the 1-month course
Data collection / Frequency	Base- & Endline survey + knowledge test used for each of the two programs
Data analysis / Quality control	Self-assessment results in the base- and endline survey will be compared and improvement calculated. The knowledge test will use a scoring system to capture improvement, application and completion of the skills and knowledge. Survey design is developed and will be further updated in coordination with WP and activity leaders. Data analysis and interpretation will be made collaboratively.
Responsible	Endeva; MEST and B-Hive for implementation and evaluation of knowledge test.
Reporting	Report on inclusive digital & entrepreneurship capacity building programs in Africa (D3.4), due M27; Final outreach and impact creation activities report (D5.6), due at M34 ;

Indicator	**# of African youth participants that use acquired skills after the programme** **# of African youth participants that established a connection with a VJF employer six months after the VJF** **# of African youth participants in employment (incl. self-employment, internships) 6 months after the VJF**
Definition / Purpose	These indicators assess to what extent former African youth participants can use the acquired skills of the capacity building programs (in the job, in school, as a hobby). Furthermore, the indicators aim to assess if and to what extent post-VJF connections between potential employers and potential employees were established and the current outcome of established connections. If former youth participants found employment (in logistics and beyond) is additionally assessed. These indicators are addressing one of the main inhibitors identified in the ecosystem. Namely, that the lack of digital literacy and readiness skills needed to develop and use smart logistics solutions, is negatively affecting job seekers who may lack the digital literacy required.
Baseline	Baseline only applicable for: employment status at baseline-survey of the 1-month capacity building programmes
Data collection / Frequency	Survey for single-use planned six months after the Virtual Job Fair (Virtual Job Fair currently planned at around M25). Timing will need to be adjusted based on the actual date of the Virtual Job Fair and the need to include results in the final outreach and impact creation activities report (D5.6, due at M34).
Data analysis / Quality Control	Results will be analysed and reported by gender and country of origin. Level of usage (not at all; some; a lot) and usage area (private, work, education) will be highlighted. The # of post-VJF employer connections established and the outcomes of these connections (application; job interview; employment; no interest) will be analysed. The number of African youth participants for which the employment status changed compared with the results obtained with the baseline survey will be analysed. Only participants that successfully completed the *Inclusive digital & entrepreneurship capacity building programs* and/or attended the *Virtual Job Fair* are included. The survey is designed to be short to foster a high survey return rate. If respondent actively searched for a job is included.

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Responsible	Endeva; MEST and B-HIVE for collection of contact details of participants in order to reach them after the programme. To ensure a high response rate, the survey should be pre-announced to participants at the end of the 1-month programme.
Reporting	Final outreach and impact creation activities report (D5.6), due M34.

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2.4 OBJECTIVE 4

To demonstrate the market relevance of the DIGILOGIC network of DIHs engaging at least 200 EU-AU innovators in the call for Challenges, to participate in the collaborative projects, and value creation in different use cases suggested by stakeholders needs.	
Key project tasks involved	• Task 2.3.: Mentoring Programme on digital technologies for smart logistics • Task 4.1.: Definition of scope and objectives • Task 4.2.: Call for Challenges • Task 4.3.: Proposals Assessment • Task 4.4.: Bootcamp • Task 4.5.: Challenges Monitoring and Reporting
Target groups of evaluation activities	Consortium Teams of the 12 *Challenges partnership projects* High Level Advisory Board (HLAB); Innovation and Impact Board (IIB)

KEY PERFORMANCE INDICATOR	**MEANS OF VERIFICATION (Where / how to get information)**
Smart Logistics Mentoring Programme	• Excel-checklist: DIGILOGIC_KPIs-review (DHM) • Progress reports • E-Learning Platform analytics where applicable
# of smart logistics mentoring webinars (M36: ≥25)	
# of participants to each live webinar (M18: 30; M36: 50)	
# of hours of smart logistics mentoring and facilities access (>)85	
4 Challenges	• Excel-checklist: DIGILOGIC_KPIs-review (VTT) • Progress reports • E-Learning platform analytics
# of challenges for smart logistics collaborative project defined (M36: 4)	
# of proposals received for collaborative projects (M36: 200)	
% of proposals received including women (≥40%)	
# of bootcamp participants (M36: 50)	
# of selected collaborative projects (M36: 12)	
# of successful completed collaborative projects (M36: >8)	
# of hours mentoring for collaborative projects (M36: 1,000)	
# of hours facilities for collaborative projects (M36: 1,000)	
# of webinars mid-term progress collaborative projects (M36: 1)	
# of participants in the mid-term progress collaborative project webinars (M36: 30)	
# of pitch webinar for successfully completed collaborative projects (M36: 1)	
# of participants at pitch webinar (M36: 50)	
# of demo day organised co-located with a major event (M36: 1)	

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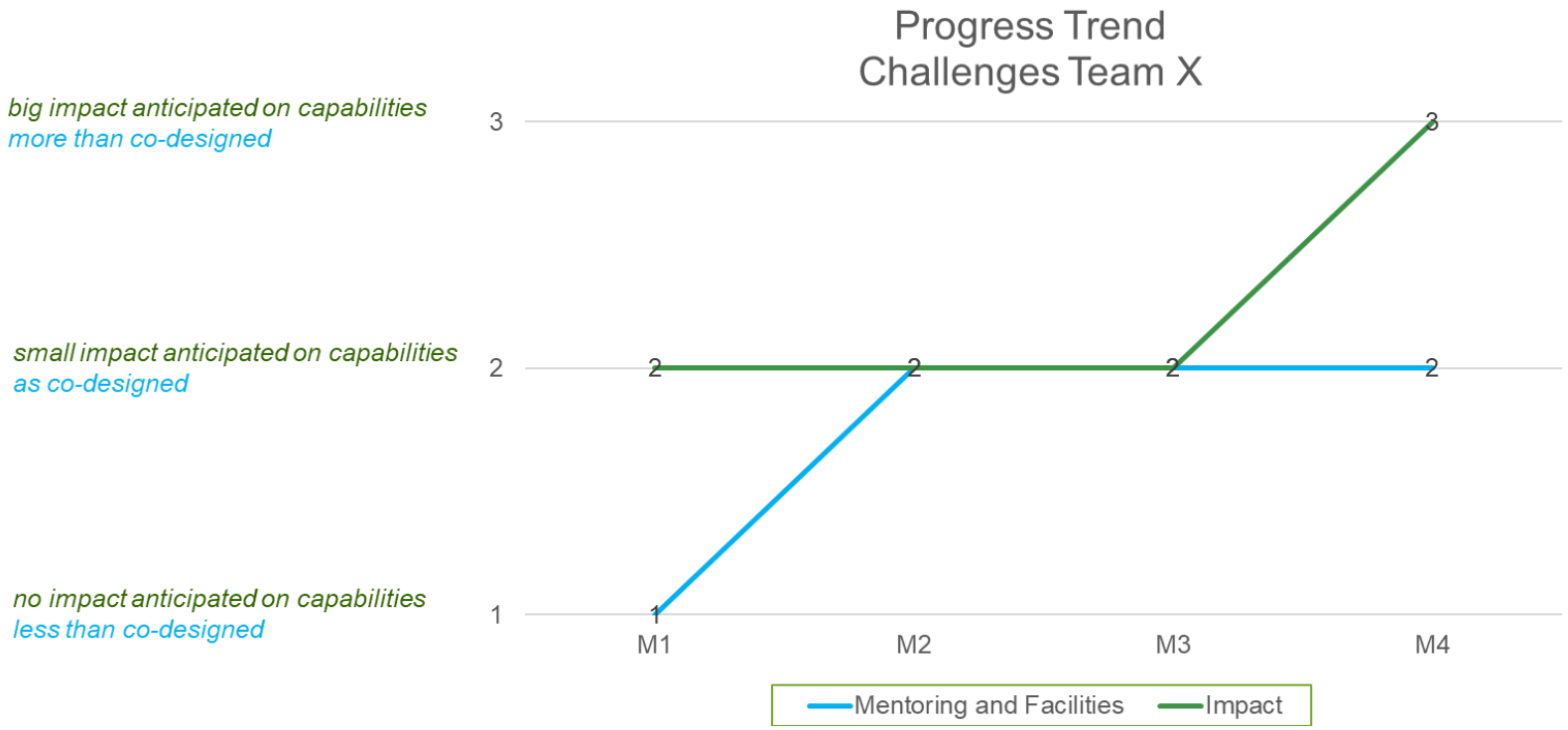
EVALUATION QUESTION	INDICATOR	MEANS OF VERIFICATION (Where / how to get information)	ASSUMPTION/ RISK
Is mentoring and of access to facilities less than as co-designed, as co-designed; more than as co-designed	Responses entered in progress trend chart as shown below	Work Package 4 records of monthly meetings with each of the 12 challenges teams	Teams are not able to participate in monthly meetings e.g. power cuts, patchy internet. Addressed by flexible scheduling
How much impact on capabilities is anticipated from the mentoring / facilities participated in: no effect; small effect; large effect	Responses entered in progress trend chart as shown below	Work Package 4 records of monthly meetings with each of the 12 challenges teams	Teams are not able to participate in monthly meetings e.g. power cuts, patchy internet. Addressed by flexible scheduling



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Indicator	**Is mentoring and access to facilities less than as co-designed, as co-designed, more than as co-designed**?
Definition	Mentoring content and access to facilities are co-designed by DIHs and 12 challenges teams starting at the boot camp. Then, every month, review of market relevance status, what DIH mentoring and facilities needed next, what resources the entrepreneurs may need to change, what practical challenges on the ground are getting better/worse—followed by detailed co-design of mentoring and facilities access for the coming month. Refinement of mentoring, including allocation of mentors to teams, and facilities access for the coming month (i.e. detailed co-design).
Purpose	To ensure that mentoring and facilities access are tailored to team's specific needs as they emerge amidst the dynamic complexity of endeavouring to bring digital logistics innovations to market
Baseline	Team-specific needs as defined during the boot camp by reference to the range of mentoring and facilities options available
Data collection/Frequency	Monthly
Data analysis/Quality control	Ratings (less than as co-designed, as co-designed; more than as co-designed) recorded with narrative examples (qualitative) and marked on progress trend chart (quantitative)
Responsible	VTT
Reporting	In Work Package 4 records for monitoring and evaluation in Task 4.5

Indicator	**How much impact on capabilities is anticipated from the mentoring facilities participated in: no effect; small effect; large effect?**
Definition	The 12 Challenges teams and the DIHs give feedback about how much impact on the development of their capabilities they anticipate the mentoring / facilities they have participated in will have with narrative examples of types of impact anticipated. The narrative examples of types of impact will emerge from the complex system of teams / DIHs. Emergence occurs when a complex system is observed to have properties that its parts do not have on their own. These are properties or behaviours which emerge only when the parts interact in a wider whole. Emergent properties are characterised by radical novelty arising from dynamic processes. As emergent properties in complex systems are characterised by radical novelty from dynamic processes, it is not possible to define fully in advance what impacts will be. Rather, anticipated impacts can be described: then, in the concluding monthly review at the end of the 12 team projects described anticipated impacts could be referred to again in order to assess whether those are the impacts that have emerged and/or what other unanticipated impacts there have been on the development of capabilities.
Purpose	To determine the types of impact that can emerge from the dynamic complexity of a complex system of teams / DIHs from Africa and Europe
Baseline	Team-specific impact objectives as defined during the boot camp by reference to the range of mentoring and facilities options available
Data collection/Frequency	Monthly
Data analysis/Quality control	Ratings (no effect; small effect; large effect) recorded with narrative examples (qualitative) and marked on progress trend chart (quantitative)
Responsible	VTT
Reporting	In Work Package 4 records for monitoring and evaluation in Task 4.5

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2.5 OBJECTIVE 5

To ensure post-project sustainability and growth of the DIGILOGIC ecosystem	
Key project tasks involved	• Task 1.3. Ecosystem engagement • Task 5.4. Sustainability and exploitation plan
Target groups of evaluation activities	DIGILOGIC Consortium members

KEY PERFORMANCE INDICATOR	MEANS OF VERIFICATION (Where / how to get information)
# of logistics industry players actively engaged (M18: 2; M36: 5)	• Excel-checklist: DIGILOGIC_KPIs-review • Progress reports
# of diaspora communities involved (M18: 1; M36: 2)	
# of impact assessment realised (M18: 1; M36: 2)	
# of sustainability/business plan available (M36: 1)	

EVALUATION QUESTION	INDICATOR	MEANS OF VERIFICATION (Where / how to get information)	RISK
How does the post-project future of the Pan EU-African DIGILOGIC Hub look like? Will the hub continue to exist and if so, in what form? Which post-project hub conditions and strategies appear useful?	• Post-project continuation options of DIGILOGIC secured / in development at the end of the project (e.g. funding from donors, inclusion in related ecosystems, continuation as perceived by DIHs a.o.).	• Interviews and focus group discussion with consortium	

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Indicator	**Post-project continuation options of DIGILOGIC secured / in development at the end of the project (e.g. funding from donors, public and private funds, inclusion in related ecosystems; continuation as perceived by DIHs a.o.)**
Definition / Purpose	This indicator takes account of a variety of continuation options for the Pan EU-African DIGILOGIC Hub to be sustained beyond the duration of the project. The indicator differentiates between continuation options secured and in development to highlight potentially existing uncertainties at the project end. Continuation of the Hub enables us to assess the sustainability of the DIGILOGIC project, which in turn is key for DIGILOGIC's post-project potential for future impact.
Baseline	n/a
Data collection / Frequency	End-evaluation interviews and focus group discussion with consortium
Responsible	Endeva
Reporting	Final outreach and impact creation activities report (D5.6), due M34. Final exploitation and sustainability plan (D5.7), due M36.

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3 TIMEPLAN

TABLE 2: GANTT-CHART: TIMING OF EVALUATION ACTIVITIES

Evaluation Instrument	Timing																																	
	2021 (DIGILOGIC 1st year)												2022 (DIGILOGIC 2nd year)												2023 (DIGILOGIC 3rd year)											
	M1	M2	M3	M4	M5	M6	M7	M8	M9	M10	M11	M12	M13	M14	M15	M16	M17	M18	M19	M20	M21	M22	M23	M24	M25	M26	M27	M28	M29	M30	M31	M32	M33	M34	M35	M36
Project reporting																																				
Social Network Analysis																																				
Peer-learning survey																																				
E-learning Platf. analytics																																				
Co-creation IMPACT labs survey																																				
Youth capacity building: baseline-survey																																				
Youth capacity building: endline-survey																																				
Youth post capacity building/VJF survey																																				
Challenges projects: In-process joint evaluations																																				
Interviews/focus groups																																				

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4 ROLES AND RESPONSIBILITIES

The following distributed roles will ensure a successful implementation of the impact methodological framework throughout the run time of the DIGILOGIC project.

Endeva is leading the evaluation activities (Task 5.3.) throughout the project. The main responsibilities of Endeva include:

- Adapt impact methodological framework, indicators and data collection tools throughout project implementation, in close cooperation with the work package and task leaders.
- Set-up finalised online surveys ready for work-package and task leaders to implement for the specific project activities.
- Analyse data and feedback results to the consortium, WP and task leaders continuously to ensure data-driven feedback and usage of data results.
- Plan and implement evaluation activities throughout the runtime of the project, especially during mid- and end-evaluation.
- Process and analyse data. Visualise results to ensure further collaborative analysis and discussion within the consortium and other relevant projects and key ecosystem stakeholders.
- Prepare and finalise deliverable 5.3 First impact creation and activities report at M18, and deliverable 5.6 Second impact creation and activities report at M34. The last report will be developed in close collaboration with PROTON, leading WP 5 and the outreach activities.

The main **responsibilities of the work package and task leaders** are as follows:

- Report KPIs every six months during project implementation. Reporting is overseen by DIGILOGIC's project coordinator.
- Include the related evaluation activities in the "Participant Information Sheet" available in deliverable 7.1. H – Requirement No. 1. Ensure that participants of the respective tasks have received the "Participant Information Sheet" and signed the "Informed Consent Form".
- Forward only absolute necessary personal data (mainly e-mail-addresses) to reach the specific evaluation targets. Regulations as specified in deliverable 7.2 POPD – Requirement No. 2 need to be followed in case any personal data are transferred between EU and Non-EU countries.
- Implement surveys during project activities according to the plan (e.g. forward survey link to training/lab participants).
- Fill in the survey that is targeting the DIHs of the consortium (namely, the SNA-survey at mid- and end-evaluation and the peer-learning survey)
- Ensure availability for collaborative analysis and discussion, especially during the mid- and end-evaluation (availability for a 1-hour interview and for a 1-hour focus group discussion, both at mid- and end-evaluation).
- Use data for learning and improvement.

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5 DATA MANAGEMENT & ETHICAL CONSIDERATIONS

An external survey platform will be used for executing the quantitative surveys specified in the framework. Collected data will be downloaded, deleted from the platform, coded and stored on the project's Teams repository.

As part of the evaluation activities, no personal data will be collected. Only basic socio-demographic data (e.g. type of key ecosystem stakeholder, gender, age, place of origin a.o.) will be collected without the possibility to identify any single person. Personal data (such as contact details through e-mail addresses) previously collected within DIGILOGIC will nevertheless be necessary to reach the different target groups for evaluation purposes.

The evaluation activities will comply in all aspects with DIGILOGIC's ethical approach and instruments as specified in deliverables 7.1 H - Requirement No.1, deliverable 7.2 POPD-Requirement No. 2 and deliverable 7.3 NEC-Requirements No. 3 as well as the data management plan in deliverable 6.1. Project Quality Plan.

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6 CONCLUSIONS

DIGILOGIC puts great emphasis on the systematic assessment and evaluation of the project's impact and success towards reaching its objectives, as well as lessons learned and best practices. DIGILOGIC has thus developed a detailed impact methodologic framework that aims to include multidimensional stakeholder feedback and perspectives throughout its evaluation activities.

The present impact methodological framework of DIGILOGIC is the basis for the project's monitoring and evaluation activities throughout the run time of the project. It will guide the internal mid-evaluation (deliverable 5.3 First impact creation and assessment report) and end-evaluation (deliverable 5.6 Final outreach and impact creation activities report). The evaluation activities will be closely aligned with Task 4.5 Challenges monitoring and reporting and Task 5.4 Sustainability and exploitation plan.

The present framework is a living document. Continuous adaptation and improvement of the framework will be decisive to ensure alignment with project progress. The framework will be updated continuously by Endeva, in close collaboration with the consortium partners throughout.

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ANNEX

ANNEX 1: PRELIMINARY EVALUATION INSTRUMENTS

Below are the preliminary and first drafts of DIGILOGIC's evaluation instruments. An update of the instruments will be needed once the tasks are specified in detail. Only then, the instruments below will be fully suitable to gather useful and task aligned data.

The evaluation instruments below are structured as follows. At the start, project reporting activities throughout the project are displayed. The quantitative-centred evaluation instruments, gathering information for a specific objective and/or used for specific project tasks follow. The qualitative-centred evaluation instruments, used mainly during the mid- and end-evaluation, enabling to gather in-depth information, lessons learned and best practices, are inserted at the end.

Project reporting

Project progress reports, meeting minutes as well as the different project deliverables will be actively used for evaluation purposes to build on the experiences, insights, perceived benefits and impacts, data and lessons learned already gathered by task and WP leaders.

For evaluation purposes, the following reporting activities are particularly relevant:

- **Impact sessions during bi-weekly project's partners calls**: impact sessions will be standardised on the agenda of the bi-weekly calls to ensure, observations and insights of the consortium partners are captured throughout and documented in the bi-weekly meeting minutes
- **DIGILOGIC_KPIs-review**: in an Excel sheet, the KPIs are tracked and reported every six months
- **Progress report**: 2 progress reports are planned where the consortium partners describe in detail the status of the activities, potential project changes, observed successes and potential problems that may have occurred.

Social network analysis (SNA)

Below is the preliminary draft of the Social Network Analysis (SNA) survey. The SNA-survey will be used to feed into the information needs for the mid- and end-evaluation, as well as for task 5.4 (Sustainability and exploitation plan). The survey will thus be further updated in the coming months together with FINN (task leader of 5.4).

The survey contains a short introductory and invitation text, as well as 15 survey questions. The survey is intended to be filled in by the DIHs belonging to the DIGILOGIC consortium, as well as the key ecosystem stakeholders engaged in the DIGILOGIC network. The SNA focuses on organisations, thus always only one representative of the respective organisation will fill in the survey, ideally the person mainly engaged/involved in DIGILOGIC. The survey will be administered online, and the evaluation targets informed via mail.

Dear partners and supporters of DIGILOGIC!

As an innovation project, DIGILOGIC aims for continuous learning and improvement. To do so, we need your help and perspectives!

We have designed a short survey aiming to understand your engagement in the DIGILOGIC network, your potential learnings and key takeaways from participation as well as your ideas for future improvement.

Thank you for taking the time to fill in the survey. It will only take around 10 minutes of your time and will help us a lot to learn and further improve.

Note on data handling: We assure you that we will treat all data collected through the survey in adherence to the requirements of the European data protection regulations (GDPR). We will process the data to ensure that responses cannot be traced back to individual organisations. The results will be made available as part of reports to our funder, the European Commission, and published openly only in an anonymised and synthesised way.

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Section 1

1. Please enter the full name of the organisation/enterprise/project you represent. _____

2. Which of the following groups does your organisation/enterprise/project primarily represent (please select only one):
   Dropdown: DIGILOGIC key ecosystem stakeholder groups
   - ☐ Development partner
   - ☐ DIH and innovation support programme
   - ☐ E-commerce and online retailer
   - ☐ Financing body
   - ☐ Government and regional body
   - ☐ Horizon 2020 project
   - ☐ Insurance provider
   - ☐ Large logistics provider
   - ☐ Multinational company
   - ☐ Non-profit
   - ☐ Research institution and academia
   - ☐ Small- and medium-sized enterprise (SME)
   - ☐ Startup
   - ☐ Telecommunication operator
   - ☐ Vehicle manufacturer

3. Please choose the country where your organisation/enterprise/project is located. For organisations/projects with multiple sites, please choose the one that is most relevant in the DIGILOGIC context. For enterprises, please select the country where your enterprise is headquartered.
   Dropdown: list of countries

4. Please indicate where you are located
   Dropdown: list of countries

Section 2

5. Please indicate the type of connection the organisation/enterprise/project you represent has with DIGILOGIC. Please select all that applies:
   - ☐ Example 1
   - ☐ Example 2
   - ☐ Example 3
   - ☐ ….

6. Please indicate the connection the organisation you represent has with each of the following organisations/enterprises/projects. Please solely focus on the connection within the DIGILOGIC context. In the second row, please indicate if the organisation you represent has had a professional relationship with this organisation/enterprise/project before DIGILOGIC. The row where your own organisation is displayed, please indicate with a 0 (row 1) and Don't know (row 2).

	Connection within DIGILOGIC	Has had the organisation you represent a professional relationship with this organisation/enterprise/project before DIGILOGIC
Friuli Innovazione Centro di ricerca e di trasferimento tecnologica scarl	What is the connection with this organisation? Use a scale of 0-3 based on the guidelines below. Please do not overthink your answers and go with what is best suitable.	Yes No Don't know
Digital Hub Logistics, Digital Hub Management GmbH		
Teknologian tutkimuskeskus VTT oy		

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Prototipi Technical Solutions, Nigeria Ltd. MEST, Meltwater Entrepreneurial School of Technology B-Hive, BongoHive Innovations Limited Engaged ecosystem stakeholder 7 Engaged ecosystem stakeholder 8 Engaged ecosystem stakeholder 9 etc.	**0 No connection**: I don't know this organisation and/or I am not aware that the organisation I represent had an interaction with this organisation. **1 Light connection**: I or colleagues of mine have met representatives of this organisation for discussions/meetings. But currently, we do not have a professional relationship with them. **2 Good connection**: The organisation I represent has a professional relationship with this organisation. We communicate occasionally and planning for collaboration is ongoing. **3 Strong connection**: The organisation I represent has a professional relationship with this organisation. We collaborate with this organisation and work together to coordinate activities or services, implement a shared project or similar.	

Section 3

How would you rate the following statements to be suitable for you and the organisation/enterprise/project you represent?

7. Participating in DIGILOGIC has improved my knowledge about structures and actors in the African logistics sector

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

8. Participating in DIGILOGIC has improved my knowledge about the digital transformation opportunities at the critical mile in Africa.

1 Strongly disagree 2 3 4 5 strongly agree

9. Through DIGILOGIC, my organisation/enterprise/project has strategically integrated the digital transformation of the African logistics sector.

1 strongly disagree 2 3 4 5 strongly agree

10. By working with DIGILOGIC, my organisation/enterprise/project has gained significant traction for digital transformation.

1 strongly disagree 2 3 4 5 strongly agree

Section 4

11. Can you briefly explain the expectations you have/had for participating in DIGILOGIC?
12. Overall, how satisfied or dissatisfied are you with the participation within DIGILOGIC so far?

1	2	3	4	5
very dissatisfied	dissatisfied	neutral	satisfied	very satisfied

13. What was your most valuable learning/insight/takeaway from your participation within DIGILOGIC?
14. Are there any aspects, that could be improved within DIGILOGIC? If you have suggestions on how the improvements could be carried out, please indicate those as well.
15. Do you have any additional comments, suggestions etc.? Please add here:

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Peer learning

The peer learning survey aims at understanding the views of the DIHs of the DIGILOGIC consortium. It will be sent to all members involved in DIGILOGIC project implementation. It will be highlighted that everybody who participated at least in one of the peer learning activities is invited to fill in the survey.

End-survey (after finalisation of all peer-learning activities)

Dear DIGILOGIC team!

We'd love to hear your feedback on your peer-learning experience. The survey is anonymous, but we would ask you to indicate if the DIH you represent is in Africa or Europe. The survey only takes a maximum of 10 minutes.

Thank you for taking the time!

1. The DIH I represent is in

- ☐ Africa
- ☐ Europe

2. In how many peer-learning activities did you participate?

- ☐ In all activities (5 digital workshops + 10 digital twinnings + one study visit)
- ☐ In + 75% of the activities
- ☐ In half of the activities
- ☐ Only in one or two activities
- ☐ Don't know

3. How would you rate the usefulness of the different peer-learning components? Please rate each of the following three components, using the rating 1 very low usefulness to 5 very high usefulness. If you have never participated in one of the components, then please indicate with 0 not applicable.

- Online Workshops
- DIH twinnings
- Study visit in Africa

1 Very low 2 3 4 5 Very high / 0 not applicable

4. How would you rate your overall learning in the following support service delivery areas of DIHs? Please rate each of the following four areas, using the rating 1 very low to 5 very high. In case you are unable to answer one or more of the following four areas (due to limited participation etc.), please use 0 don't know

- Support services for inclusive entrepreneurship and innovative businesses
- Support services to foster collaboration and networking among corporates and entrepreneurs
- Promotion and support of business models for smart logistics solutions at the critical mile
- Leverage of digital upskilling and reskilling initiatives

1 Very low 2 3 4 5 Very high / 0 Don't know

5. What was your most valuable learning from peer exchange? _____

6. How would you rate the overall benefit of such exchange between African and European DIHs?

1 Very low 2 3 4 5 Very high

7. How would you rate the overall benefit of such exchange between DIHs in general?

1 Very low 2 3 4 5 Very high

8. Did you observe key areas of expertise in which African and European DIHs can learn from each other? If yes, can you please name the key areas and explain.

9. In the DIH you represent, did colleagues participate in 1 or more peer-learning activities, that are not directly involved in DIGILOGIC project implementation?

- ☐ Yes
- ☐ No
- ☐ I don't know

10. Can you think of ways to improve a similar peer-learning format in the future?

11. Do you have any additional comments, suggestions etc.? Please add here:

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E-Learning platform analytics

The E-Learning platform analytics is an important tool to evaluate the capacity building and networking outcomes achieved through the E-Learning platform without any additional effort required from the target groups. The specific analytics feasible to gather will be further updated once the E-Learning platform is finalised and the information available.

E-Learning Platform analytics

- Number of learners/experts registered on the platform, divided by gender, country of origin
- Per upskilling programme: number of learners that registered, divided by gender, country of origin
- Per upskilling programme: number of learners that successfully completed the course, divided by gender, country of origin
- Number of discussion groups created
- Number of resource downloads of E-Library
- Number of on-demand audio/video contents downloads

Co-creation IMPACT labs

The following survey will be used at the end of each of the 6 Co-creation IMPACT labs. It will be filled in by all participants. The survey will be administered online. To ensure a high response rate, the survey is ideally filled in by participants at the end of each lab (before its formal conclusion). Seeing that the details for the Co-Creation IMPACT labs are not yet fully specified, it will be of high importance to further update the survey below.

Survey

Dear Co-creation IMPACT lab participants!

With this short questionnaire, we would like to gather your overall feedback on the Co-creation IMPACT lab. This will help us to identify the success and potential improvements for the future. Your answers will remain anonymous. Please note that your participation in this survey is optional, but strongly recommended, as it will allow us to make changes to future programmes.

DEMOGRAPHIC

1. Gender: How do you identify?

- ☐ Man
- ☐ Non-binary
- ☐ Woman
- ☐ Prefer not to answer

2. Where are you located?

Dropdown: list of countries

3. Which of the following groups do you primarily represent (please select only one)

- ☐ Micro, Small, Medium Enterprise (MSME)
- ☐ Information and communications technology (ICT) professional
- ☐ Student of DIGILOGIC's 1-month digital & entrepreneurship capacity building programme
- ☐ Other, please specify_____

LEARNING

PATH 2: if question 3 answered MSMEs

To what extent do you agree with the following statements?

4. In the Co-creation IMPACT lab, I experienced well the potential of collaboration.

1	2	3	4	5
strongly disagree	disagree	neutral	agree	strongly agree

5. In the Co-creation IMPACT lab, I actively created and developed solutions together with the other participants

1 Strongly disagree 2 3 4 5 strongly agree

6. I have experienced the Co-creation IMPACT lab as an effective business innovation tool.

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1 Strongly disagree 2 3 4 5 strongly agree

7. In the Co-creation IMPACT lab, I could approach my business obstacles from a whole new perspective.

1 Strongly disagree 2 3 4 5 strongly agree

8. I consider the digital solutions developed in the Co-creation IMPACT lab as valuable for my business.

1 Strongly disagree 2 3 4 5 strongly agree

9. I will further elaborate on the digital solutions for my business.

1 highly unlikely 2 3 4 5 highly likely

PATH 1: if question 3 answered ICTs and students

To what extent do you agree with the following statements?

4. In the Co-creation IMPACT lab, I experienced well the potential of collaboration.

1 Strongly disagree 2 3 4 5 strongly agree

5. In the Co-creation IMPACT lab, I actively created and developed solutions together with the other participants

1 Strongly disagree 2 3 4 5 strongly agree

6. I have experienced the co-creation IMPACT lab as an effective innovation tool.

1 Strongly disagree 2 3 4 5 strongly agree

7. I have experienced the Co-creation IMPACT lab as a valuable learning experience for me and my future career.

1 Strongly disagree 2 3 4 5 strongly agree

SATISFACTION

What was your most valuable learning/takeaway from the Co-Creation IMPACT lab?

_____

Overall, how satisfied or dissatisfied are you with your participation in the Co-creation IMPACT lab?

1 very dissatisfied 2 3 4 5 very satisfied

Do you have any suggestions for improvement?

Do you have any additional comments, suggestions etc.? Please add here:

Thank you for your feedback! DIGILOGIC team

Digital & entrepreneurship capacity building programme / Virtual Job Fair

Listed below are the key quantitative-centred evaluation instruments used for the two 1-month programs for African youth. In addition to the tools included here, the programme will collect interim feedback from students, trainers and mentors. This will ensure continuous improvement and learning. A knowledge test will further be developed and used at the end of the two 1-month programs. The instruments below will be updated and the additional features designed, once the finalised course structure, approach and content are defined.

Baseline Assessment Form

Dear participants,

Welcome to DIGILOGIC and the 1-month *digital & entrepreneurship capacity building programme.*

This short questionnaire is designed to determine your perceived level of entrepreneurial and digital literacy skills as well as your expectations from this 1-month programme. This will help us to identify your existing skills, strengths, expectations and potential needs within the programme. This will enable us to support you in the best way possible.

This questionnaire is not a test and there are no right or wrong answers. Please share your honest self-assessment and expectations. The answers will remain anonymous and have no influence on your participation.

Please note that your participation in this survey is optional, but strongly recommended, as it will allow us to make changes that will directly benefit the programme.

DEMOGRAPHIC

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Attendee ID	The first two letters of the month you were born	The first two letters of your mother's first name	The first two letters of your father's first name	The digits of the year you were born

1. Gender: How do you identify?

- ☐ Man
- ☐ Non-binary
- ☐ Woman
- ☐ Prefer not to answer

2. What year were you born?

Dropdown: years

3. Where do you currently live?

- ☐ Ghana
- ☐ Nigeria
- ☐ Kenya
- ☐ South Africa
- ☐ Zambia
- ☐ Other, please specify_____

4. Are you currently……? (please select all that applies)

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Unemployed
- ☐ In Education (e.g. university)
- ☐ Other, please specify _____

PERCEIVED EXPECTATIONS AND SKILLS

5. What is your motivation for participating in this 1-month programme? What do you expect to gain out?

6. If you had the chance to pick any topic for the programme curricula, which one would you pick?

7. What is your perceived level of skill with the following topics?

	1 Not skilled	**2**	**3**	**4**	**5 Very skilled**
	Guidance on what skills are needed per level (1 to 5) will be included per topic				
Entrepreneurship					
Topic 1					
Topic 2					
Digital literacy					
Topic 1					
Topic 2					
Key enabling technologies for smart logistics					
Topic 1					
Topic 2					

8. Do you have any additional comments, suggestions etc.? Please add here:

Thank you for participating in this survey. DIGILOGIC

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Endline Assessment Form

Dear participants

of the 1-month *digital & entrepreneurship capacity building programme!*

This short questionnaire is designed to gather your overall feedback and perceived level of entrepreneurial and digital literacy skills at the programme's end. This will help us to identify the success of the programme and potential improvements.

This questionnaire is not a test, and there are no right or wrong answers. Please share your honest views. The answers will remain anonymous.

Please note that your participation in this survey is optional, but strongly recommended, as it will allow us to make changes to future programs.

Attendee ID	The first two letters of the month you were born	The first two letters of your mother's first name	The first two letters of your father's first name	The digits of the year you were born

DEMOGRAPHIC

1. Gender: How do you identify?

- ☐ Man
- ☐ Non-binary
- ☐ Woman
- ☐ Prefer not to answer

2. Where do you currently live?

- ☐ Ghana
- ☐ Nigeria
- ☐ Kenya
- ☐ South Africa
- ☐ Zambia
- ☐ Other, please specify_____

PERCEIVED SKILLS AND EXPECTATIONS

3. What is your perceived level of skill with the following topics?

	1 Not skilled	**2**	**3**	**4**	**5 Very skilled**
	Guidance on what skills are needed per level (1 to 5) will be included per topic = identical with baseline				
Entrepreneurship					
Topic 1					
Topic 2					
Digital literacy					
Topic 1					
Topic 2					
Key enabling technologies for smart logistics					
Topic 1					
Topic 2					

4. How do you rate the following statement?

Because of my participation in the programme, I have improved my career and employment opportunities.

1 Strongly disagree 2 3 4 5 Strongly Agree

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SATISFACTION WITH PROGRAMME

5. How would you rate the support provided by MEST/B-Hive?

1 Very dissatisfied 2 3 4 5 Very satisfied

6. What is your perceived satisfaction with the following programme elements

	1 Very Dissatisfied	**2**	**3**	**4**	**5 Very satisfied**
Relevance of programme content					
Programme timeline					
Communication from the programme team					
Trainers' ability to transfer topics					
Quality of learning materials					
Online teaching technique and use of multimedia					
Programme overall					

7. Do you have any suggestions on how a similar programme in the future could be improved?

8. Do you have any additional comments, suggestions etc.? Please add here:

Thank you for participating in this survey

DIGILOGIC Team

Survey

Dear former DIGILOGIC students!

The best way to understand the value of our support is to ask our students—You.

We want to know if and how useful DIGILOGIC's support has been for you and your life.

Your participation in this survey is optional, but, it would help us a lot if you fill out this questionnaire. It only takes a maximum of 5 minutes and your answers will remain anonymous.

Attendee ID	The first two letters of the month you were born	The first two letters of your mother's first name	The first two letters of your father's first name	The digits of the year you were born

DEMOGRAPHIC

1. Gender: How do you identify?

- ☐ Man
- ☐ Non-binary
- ☐ Woman
- ☐ Prefer not to answer

2. Where do you currently live?

- ☐ Ghana
- ☐ Nigeria
- ☐ Kenya
- ☐ South Africa
- ☐ Zambia
- ☐ Other, please specify_____

SKILL USE SINCE PROGRAMME END

3. To what extent do you use what you learned in the DIGILOGIC programme so far?

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- ☐ Not at all
- ☐ Some
- ☐ A lot
- ☐ Not applicable/I don't know

PATH: if question 3 answered not at all

4. Can you please briefly explain why not?

PATH: if question 3 answered some / a lot

4. Can you please select for which context the skills were already useful to you? Please select all that applies.

- ☐ Private purpose (e.g. hobby, help friends)
- ☐ Work
- ☐ Education
- ☐ Not applicable/I don't know

EMPLOYABILITY SINCE PROGRAMME END

5. During the past month, have you been actively looking/applied for work (incl. internships, student jobs..)?

- ☐ No
- ☐ Yes

6. Have you been in contact with companies from DIGILOGIC's Virtual Job Fair during these past months?

- ☐ No
- ☐ Yes
- ☐ I didn't attend the Virtual Job Fair

PATH: if question 6 answered Yes

7. What is the status of the contact currently? (please select all that applies)

- ☐ Job application is planned
- ☐ Job application is sent
- ☐ Job interview is planned
- ☐ Job interview done
- ☐ I started a position at the company
- ☐ I didn't get the job
- ☐ I am not interested in the company / the work
- ☐ Other, please specify: _____

8. Are you currently……? (please select all that applies)

- ☐ Employed for wages
- ☐ Self-employed
- ☐ Internship
- ☐ Unemployed
- ☐ In Education (e.g. university)
- ☐ Other, please specify _____

PATH: if question 8 answered employed/self-employed/internship

9. What is your occupation, or what kind of work do you do? _____

10. Is your work in the transport and logistics industry?

- ☐ No
- ☐ Yes
- ☐ Don't know

11. Do you have any additional comments that you find relevant? Please add here:_____

Thank you for participating in this survey. We wish you all the best with your future endeavours.

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4 Challenges partnership projects / Smart Logistics Mentoring Programme

Task 4.5 Provides mentoring and facilities to 12 teams to develop their capabilities.
In accordance with global best practice, there will be in-process joint monitoring and evaluation for action learning and continuous improvement through co-design.

- Following initial planning at the boot camp of team-specific mentoring and access to facilities, after each programme element or at least monthly, a joint review with the 12 teams and DIHs will be organised, which is open to HLAB / IIB, comprising two activities as explained below.

1) Mentoring and Facilities during the past month

1.1) M&E of Co-Designed Mentoring and Facilities Access.

- The 12 teams and the DIHs give a rating of the jointly co-designed mentoring and of access to facilities used that month (less than as co-designed; as co-designed; more than as co-designed.
- The 12 teams and the DIHs give feedback about how much impact on the development of their capabilities they anticipate the mentoring / facilities they have participated in will have (no effect; small effect; large effect: with narrative examples of types of impact anticipated). The examples of effects will emerge from the complex system of teams / DIHs. Emergence occurs when a complex system is observed to have properties that its parts do not have on their own. These are properties or behaviours which emerge only when the parts interact in a wider whole. Emergent properties are characterised by radical novelty arising from dynamic processes. As emergent properties in complex systems are characterised by radical novelty from dynamic processes, it is not possible to define fully in advance what impacts will be. Rather, anticipated impacts can be described: then, in the concluding monthly review, described anticipated impacts could be referred to again in order to assess whether those are the impacts that have emerged and/or what other unanticipated impacts there have been on the development of capabilities.
- Ratings provide information for in-process progress trend charts as shown in sub-section 2.4. of this deliverable.

1.2) Action Learning and Detailed Co-Design. In relation to the ratings selected in 1.1.) teams / DIHs make suggestions for improvements to mentoring content already used, suggestions for improvements to facilities, and prediction of consequent improvement to development of capabilities (e.g. from no effect to small effect; from small effect to large effect; from large effect to huge effect). This is important for future use of mentoring content within and beyond DIGILOGIC.

2) Mentoring and Facilities during the coming month

2.1) M&E of Environment. Review of market relevance status, what DIH mentoring and facilities needed next, what resources the entrepreneurs may need to change, what practical challenges on the ground are getting better/worse.

2.2) Detailed Co-Design of Mentoring and Facilities Access for the coming month. Refinement of mentoring, including allocation of mentors to teams, and facilities access for the coming month (i.e. detailed co-design).

- At concluding monthly review

M&E of Co-Designed Mentoring and Facilities Access.
Twelve teams and the DIHs give feedback with narrative examples on the overall impact of co-designed mentoring and access to facilities has had on the development of their capabilities (no effect; small effect; large effect). This reflective feedback includes reference to records of all the previous monthly reviews including joint action learning and continuous improvement. This will lead to the categorisation of effects that have emerged from the complex system of the teams and DIHs interactions.
Action Learning and Detailed Co-Design
Lessons learned from in-process joint action learning and continuous improvement inform joint workshop for co-design of five to ten principles for Pan Africa - Europe sustainable network of DIHs.

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Interviews and focus group discussions

Interview and focus group discussions, as qualitative methods, are an essential part of DIGILOGIC's impact methodological framework. They will be used in addition to the quantitative methods by providing more insightful understanding and completing or obtaining information not provided by the quantitative-centred surveys.

Below is a list of anticipated qualitative methods, mainly interviews and focus group discussions, for different internal and external project stakeholders. Guiding evaluation questions for each stakeholder group are included. The questions per target group stated below need to be considered as preliminary. Per target group, specific semi-structured focus group/interview guidelines will be developed, considering project progress at mid- and end-term and data already obtained.

Individual interviews with each consortium member

Individual interviews will be held with each consortium partner at mid- and end-evaluation. The objectives of these interviews are, to reflect on the experience, success and potential problems of their respective tasks and WP. The interviews will allow adding the perspective of the consortium members to the data already obtained from external project participants. It also aims to gather the lessons learned, detect potential bottlenecks and best practices. The following preliminary questions will guide the interviews:

- Are there any key takeaways resulting from the design and implementation of the tasks and WP?
- Which achievements do you consider key for your respective WP and tasks?
- Are there any bottlenecks (internally or externally) that compromise the ability of DIGILOGIC to reach its objectives?
- For the DIH you represent, are there any key benefits resulting from this Pan African-EU DIH collaboration? In which area of expertise did you learn from the others? Which conditions are decisive for the benefits/synergies of such collaboration to evolve?
- Which challenges and opportunities lie ahead for DIGILOGIC?

Focus group discussions with HLAB and IIB (availability of HLAB and IIB not yet confirmed)

The HLAB and IIB support DIGILOGIC in different areas of project implementation (awareness, advise on the specifications related to the Co-creation IMPACT labs, 4 Challenges, mentoring innovators and support their solutions uptake, strengthening the collaboration among DHI's at regional and international level a.o.). Including the perspective of the HLAB and IIB would thus enrich the evaluation through the integration of an external perspective with extensive expertise in the field as well as insight into the DIGILOGIC project. Preliminary interview questions:

- What did DIGILOGIC accomplish?
- Are there any innovation elements that you consider to be strong in DIGILOGIC / 4 Challenges projects? Do you see long-lasting predictable impacts that these innovations are likely to accomplish in the future?
- Are there any bottlenecks (internally or externally) that compromise the ability to uptake the technological solutions developed?
- In which areas of expertise can European DIHs learn from African DIHs and the other way around? Do you see key benefits resulting from this Pan African-EU collaboration of DIHs? Do you see room for improvement? Which conditions are decisive for benefits to evolve?
- Which challenges and opportunities lie ahead for DIGILOGIC to reach its vision?

Focus group discussion with the whole consortium

A focus group discussion with the consortium members will be a key component during the mid- and the end-evaluation. The aim is to discuss, reflect and assess together, as a consortium, the process and impact of DIGILOGIC.

- What did DIGILOGIC accomplish?
- Do you think the key objectives were reached as expected? Did DIGILOGIC go beyond these objectives?

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- In which areas of expertise can European DIHs learn from African DIHs and the other way around? Do you see key benefits resulting from this Pan African-EU collaboration of DIHs? Do you see room for improvement? Which conditions are decisive for benefits to evolve?
- Are there any innovation elements that you consider to be strong in DIGILOGIC / 4 Challenges projects?
- In your opinion, will DIGILOGIC continue to exist after the project's closure? If yes, who will be leading it?

Case story interviews with selected key ecosystem stakeholders

This is an optional component of the framework, and will depend on the need, availability of key ecosystem stakeholders and time resources. If this evaluation method is used, the objective is, to collect evidence for any organisational changes and/or impact-driven by their DIGILOGIC participation. Additionally, these case stories may be well suited for external communication. The following are potential stakeholders to be interviewed: selected African MSMEs that participated in one of the Co-creation IMPACT labs, a DIH that is newly engaged in the DIGILOGIC network, a selected team of the four challenges partnership projects. Preliminary interview questions:

- Can you describe your involvement in DIGILOGIC's activities? How was your experience?
- Did you gain new knowledge/perspectives through your involvement? If yes, can you please explain?
- Did your involvement in DIGILOGIC influence your business/organisation in any way (e.g. new network, collaborations, new digital projects)?

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ANNEX 2: REFERENCES

[1] Bamberger, 2012, Introduction to mixed methods in impact evaluation. https://www.interaction.org/wp-content/uploads/2019/03/Mixed-Methods-in-Impact-Evaluation-English.pdf

[2] Digital Promise, Planning a Social Network Analysis. https://digitalpromise.org/wp-content/uploads/2018/09/SNA-Toolkit.pdf

[3] Hargreaves, Margaret B., 2010, Evaluating System Change: A Planning Guide. https://mathematica.org/publications/evaluating-system-change-a-planning-guide

[4] Jansen, Dorothea, 2006, Einführung in die Netzwerkanalyse. Grundlagen, Methoden, Forschungsbeispiele. VS Verlag für Sozialwissenschaften

[5] Practical guide to evaluating innovation programmes, 2006. https://ec.europa.eu/growth/content/practical-guide-evaluating-innovation-programmes-0_en

[6] Taherdoost, Hamed, 2019, What is the best response scale for survey and questionnaire design; Review of different lengths of rating scale / attitude scale / likert scale. https://www.researchgate.net/publication/343994538_What_Is_the_Best_Response_Scale_for_Survey_and_Questionnaire_Design_Review_of_Different_Lengths_of_Rating_Scale_Attitude_Scale_Likert_Scale

[7] The Geography of Transport Systems, Long Wave Cycles of Innovation. https://transportgeography.org/contents/chapter3/transportation-and-economic-development/innovation-long-wave-cycles/

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