1. PUBLISHABLE SUMMARY

Summary of the context and overall objectives of the project (For the final period, include the conclusions of the action)

The Digital Industry Alliance (DIA) project rationale is based on the need for developed countries in Europe, to revitalize their economy, and review their production. In order, to not loose market shares with developing countries. In today's economic environment, SMEs from the ICT and manufacturing / industrial sectors must build on this cross-sectoral capacity to be more competitive and sell joint products on the international stage. The main objectives of the project were: i) to build-up a partnership of world leading clusters to configure a "European Strategic Cluster Partnership" – Going International"; ii) to increase the clusters competitiveness and innovation potential for internationalization by fostering cooperation among SMEs; iii) to provide a better understanding of the most effective ways to improve cross-sectoral collaboration between clusters at a European interregional level in order to develop and commercialize innovations internationally; and iv) besides focusing on digital technology in manufacturing, to enable the development of a global value chain with other sectors and regions.

The main outcomes of the project relate to the organized study visits in Italy, Germany and Sweden to identify best practices in Digital Industry. During these visits, the partners were able to understand local ecosystems and visit industrial plants (OLSA, ABB and PVA). A main highlight of the project was the final event at IoTSWC Barcelona 2019 co-hosted with the Cyber Secure Light project. The co-organization not only contributed to gathering of more than 70 attendants to our event but also was the starting point for forthcoming participation in joints EU projects that cross knowledge and experience from clusters in different but connected sectors. 34 participants were affiliated with clusters from DIA and CSL partnerships or are their members (mostly SME). Other events such as the visit to Germany helped the DIA consortium to add an additional partner (RWTH) to the cross regional dimension of their cooperation.

The expected results/Impact and continuity of the projects highlighted the delta between the target Key Performance Indicators and the achieved. The Number of events accumulated for B2B events were 2 and B2B meetings were 35. The Key Performance Indicators are a mixed result where number of clusters organizations and business networks from different COSME participating countries having benefited from project activities resulted in an achieved performance of 31 in comparison to the target of 10. However, number of partnership agreements established among different actors as a direct or indirect result of activities achieved was only 2 (CRIM, Canada, and Global EPIC, USA) in comparison to the target figure of 10 and the stimulate networking and partnership arrangements as well as the development of a long-term vision and strategy was 12 against the suggested Identification of 50 new collaboration strategies and network activities.

The overall objective of the project was to build-up a partnership of world leading clusters to configure a "European Strategic Cluster Partnership – Going International" focused on internationalization of digital technologies applied to manufacturing and industry (also called "Industry 4.0"). This objective was certainly achieved first through WP1 survey of needs and then through the study visits, workshops and final event in Barcelona.

The global value chain is structured around an innovative transnational collaborative approach focused on cross-sectorial collaboration to commercialize the different technologies, product and services jointly in the field of digital technologies applied to manufacturing and industry developed by the clusters (and their SMEs) in international markets identified in the internationalisation strategy. Again WP3 provided an excellent strategy and roadmap that was also used to define the methodology.

WP3 also highlighted the target countries (Markets) for advancing European products and services internationally such as China, USA, Brazil and Canada.
Through the dissemination of WP4 the partners SMEs are now more aware of the various attributes associated to manufacturing stemming from Germany, Italy and Sweden and advanced ICT from France, Portugal and Spain.

Work performed from the beginning of the project to the end of the period covered by the report and main results achieved so far (For the final period please include an overview of the results and their exploitation and dissemination)

Work Package 1: State of the art and basis for collaboration
The activity of the WP was divided into 4 tasks that were developed in the first period of the project (from December 2017 until May 2018).In total 43 clusters were identified from the following countries: Estonia (2 clusters), Hungary (6 clusters), Lithuania (9 clusters), Poland (9 clusters), Romania (5 clusters), Slovakia (1 cluster), Slovenia (3 clusters), Albania (1 cluster), Ukrania (7 clusters).
Additional dissemination activities were carried out by the partners with other clusters that support the identification of collaboration opportunities between clusters and its associated companies, mainly SMEs. The results of the survey showed the main ICT areas of interest within the partners consortium of European SMES; Autonomous robots; Simulation; Horizontal and vertical system integration; Industrial Internet of Things (IIoT); Cybersecurity; Cloud; Additive manufacturing; Augmented reality; Big data and analytics; ICT strategy and planning; Transformation and innovation models; Document management; User Support Centre; Support for Knowledge Management; Support for Information Systems; Support for training processes. And for Industrial areas of interest; Industrial safety; Data & security; Human factor; Automation, robotisation, integration; Simulation; HMI (Human Machine Interface); Additive Manufacturing; Industrial Internet of Things; Augmented and Virtual Reality; and Prototyping.
Work package 2 activities were developed in three distinct levels:
•In each region, each beneficiary organised activities to present the project and stimulate cooperation between companies and RTO with expertise both in ICT and in Industrial related domains;
•In Italy, Germany and Sweden we have organised study visits to identify best practices in Digital Industry. During these visits, we were able to understand local ecosystems and visit industrial plants (OLSA, ABB and PVA). These companies presented their digital transformation roadmaps and, also, their activities and plans in Research, Development and Innovation and have identified potential areas where they are looking for partners.
ABB has also presented their acceleration programme SynerLeap and the Municipality of Västerås, their Innovation Arena Expectrum activities that include incubation, acceleration, test beds and training and education activities.
We have visited at the University of Aachen the Smart Logistics Cluster with whom we have already started to cooperate for DIA next steps.
•Internationally, we have organised 3 events targeting third-countries and European companies. The first was in Torino where, in cooperation with the IoT4Industry project, we have organised a workshop and B2B and C2C (Cluster to Cluster) meetings. The second was in Eskilstuna, DIGIMEET 2019, where major companies, public agencies, SME and clusters presented their vision and their policies for Industrial Digitization as well as for supporting Innovation activities. The last, co-organized with the Cyber-Secure Light ESCP-S3 project, took place as a parallel event to the IoT Solution World Congress and both consortia presented their activities, next steps and have invited experts to debate trends and opportunities, namely international ones.DIA participation or organisation of international

events aimed not only to disseminate our project activities and partners but also to explore potential third-countries markets and identify potential partners. We have selected events where participants were clearly linked with enabling technologies like IoT (Internet of Things), Artificial Intelligence and Blockchain, paramount to digitalise industrial and logistic processes. Data is considered the "new oil" and it is expected that most decisions will be supported by data, simulation and artificial intelligence and, this way, contributing to increase efficiency and reduce errors.

Our joint action plan clearly identifies United States, China and Brazil as main markets. However, it, does not exclude the potential to reach other countries where their policies is simultaneously favourable to cooperate with the EU and within our targets. This is particularly relevant in a period of significant policy undefinitions.

For instance, Canada was identified as a relevant market in our survey but, benefiting from recent trade agreements with the EU and with US, can also be a relevant vehicle to reach US in more competitive and efficient conditions. Therefore, DIA started exploring synergies with projects or policy lines participating in EU-Canada Cluster Events both in Hannover and in the Mission to Canada.

Similarly, our participation in IoT Solutions World Congress Barcelona contributed to identify potential partners in Brazil in a clear alignment with our Joint Action Plan, the ground base for DIA application to COSME ESCP-4i Strand 2a. Nevertheless, markets in the same geographical area were considered in our activities (especially by GAIA and TICE.PT) and initial contacts are already established with potential partners in Latin America and with EU IPR Helpdesk projects. This way, as mentioned in our Joint Action Plan, we can start preparing our companies to address those markets swiftly and safely, for instance, providing adequate training.

Work Package 3: Joint Internationalisation Strategy

The Joint Internationalisation Strategy was developed in conjunction with concrete measures to ensure financial sustainability and the necessary resources for the implementation of the Joint Internationalisation Strategy (Roadmap) after the project. A detailed roadmap has been produced and it will serve as an agenda for implementing future activities. The next two years will be very intense since the consortium has to establish cooperation with consortium SME and major player in Brazil, China and the US to develop added value services that will boost innovation and create new partnerships.

A detailed explanation how to achieve these aims is part of the joint internationalization strategy. The internationalisation strategy was developed mainly based on desk research, knowledge and intelligence gathered within the consortia collaboration, preferences of member base and strategic goals of consortia cluster organizations.

The vision of the partnership as described in the joint internationalisation strategy, is to build up a sustainable alliance between clusters and networks to foster cross-sectorial and international cooperation among SME and enhance innovation in the field of digital technologies and smart manufacturing.

In the Joint Internationalisation Strategy, the strengths, weaknesses, opportunities and threats of DIA are pointed out. The DIA consortium is very strong with considerable experience in the area of innovation and internationalization. The consortium is active in an industry with high potential for integrating ICT (need for ICT solutions). The challenges, that could be seen as weaknesses but do not need to be that, is that SME many times do not see the benefit of internationalisation and its importance in long-run and that they need motivation to be engaged which is the mission of the consortium. The DIA consortium sees clear possibilities to build strong collaboration with current and new partners on the target markets. As in all internationalisation plans there are risks like regulatory barriers, administrative bottlenecks, different business environment and political uncertainties. All three identified target markets (Brazil, China and the US) struggle with a kind of political instability or political changes. The joint internationalisation strategy will be modified in case of political changes. The next most interesting countries will be chosen e.g. Mexico or Morocco.

The Financial Plan for the joint internationalisation strategy will help to ensure the sustainability of the consortium also after the end of the project. DIA submitted a strand 2 proposal under the EU programme COSME. The identification of possible funding sources to ensure the sustainability was a key aspect to be included in the long-term strategy. In this regard, partners have made an effort to find synergies between their regional and national programmes for the benefit of the partnership. Furthermore, other financial sources have been identified, such as co-financing, participation in regional, national, inter-regional and European programmes (e.g. INTERREG EUROPE, H2020, COSME, etc.).
The detailed roadmap for the upcoming two years and the coming five, is clearly described. In the mid-term (two years) a lot of activities are planned because this period should serve as a spring board for boosting the supporting activities for SME internationalization process and establishing added value services that will mainly secure global competitiveness and innovation boost for partnership companies and innovation actors. In the long-term (five years) more strategic activities are foreseen where these activities have a character of services focusing for example on cross-border, cross sectoral bottom-up collaboration building between DIA SME, monitoring internationalisation opportunities and funding, gathering and providing market intelligence and complementary soft-landing support services. The plan will have revised regularly during the implementation period where the current activities could be optimized or other activities could be added.
The Joint Internationalisation Strategy and the Financial Plan are the main basis for a sustainable structure. This structure aims to ensure a stable, long term, international, cross-cluster cooperation and knowledge/technology transfer among the DIA partners also after the project end.
During the last 24 months, the consortium established their partnership and they have two different opportunities for the future partnership. As the consortium will not be the same after the end of the project (unfortunately BNPT has to leave the consortium due to the lack of interests of their partner but they will become associated partner). Two new partners will join the consortium and the final decision about the DIA structure will be made within the new consortium at the beginning of 2020. The two possibilities for joining a structure are explained in detail in the document D 3.4 Creation of a sustainable ESCP structure - DIA ESCP. The creation of an own partnership with a legal structure is not foreseen due to two reasons, first the creation of an own partnership with a legal structure is very time - and resource consuming and second, some of the consortium partners are already included in a legal structure (EEIG) and in a partnership (SmartCityTech). The most suitable way for the DIA consortium (EEIG or SmartCityTech) will be defined and established by all partners in 2020. Within this project lifetime, the actual DIA consortium signed a partnership agreement for the further cooperation of the partners. This partnership agreement is the basis for the joint cooperation for the next years.
Work Package 4: Communication and dissemination
The main outcome of WP4 were the diverse events that were planned to reach out to as many stakeholders as possible; additionally, all Consortium partners promoted the DIA project in their usual activity as EU/international events including conferences, SME info days, meetings, conferences and fairs and other EU/international projects/clusters to draw the attention of a broader interested audience. Together with TICE.pt 3 study visits, MESAP organized 6 regional events to introduce the project to other potential stakeholders within the regional triple helix actors. These activities narrated at the end of the project during one international event held during the European Cluster Conference (e.g. in Brussels) together with the interim and final results (Joint Internationalization Strategy contained in WP3 starting at M9).
International Networking towards Digital Industries: Best Practices and Grants, Turin 13th-14th September 2018 - MESAP innovation Cluster hosted the International Networking Towards Digital Industries Best Practices & Grants event in Turin. Almost 200 people (the majority SMEs) joined this event dedicated to the industry. Besides Piedmont regional authorities and cluster representatives from the 26 clusters that integrate the 3 consortia, it was also possible to attend speeches from

large multinational companies (like Telecom Italia and SKF) that explained their vision about the Industry Digitalisation trends in Europe. The event has been organized in collaboration with two other European projects: IoT4Industry (H2020, INNOSUP-01) and Silicon Europe Alliance.

Digital Transformation in industry challenges, Aveiro, 19th October 2018 : On the 19th October, TICE.PT organised a session, attended by around 30 people, where Digital Transformation in Industry challenges and opportunities where presented by RTO and companies (including SME from ICT, manufacturing, sustainable construction, materials and automotive). A Keynote Speaker, from the University of Aveiro, introduced the main topics and potential benefits for Digital Transformation projects in industrial companies, including topics presently included in large and mobilising nationally funded R&D projects. After this first moment, companies like Renault and Scent presented their roadmap for Industry 4.0 activities. SME from the ICT cluster also introduced their products, services and case studies in different sectors. The second panel was dedicated to present some support projects and mechanisms in which TICE.PT is engaged namely Digital Industry Alliance, IoTEC, IoT4Industry and PME Digital, projects touching this wide domain in several phases. Roadmap 4.0. Workshop, École des Mines de Saint-Étienne Campus G. Charpak Provence, 14th May 2019

Pôle SCS organised a workshop oriented to identify possible initiatives at different levels. Including capacitation, innovation and new technologies, products or services.

The reason for having the event immediately after the Roadmap 4.0 workshops was to attract a larger audience that related to the theme of DIA; digital technologies applied to manufacturing and industry (also called “Industry 4.0”) and in reference to Going International, Business France were invited to present during the DIA workshop to highlight their mission at MITC (cluster member of DIA project) in Sweden and propose webinars on some of the DIA project target markets of Canada; USA; and Brazil.

Study Visit in Germany , 3rd -4th September 2019 (Wettenberg, Aachen): During September 3rd and 4th 2019, representatives of the DIA project (BNPT, MESAP, Pole SCS, TICE.PT and MITC), took part in a study visit in Germany. This visit was organised by BalticNet-PlasmaTec and included a visit to BNPT’s partner PVA Industrial Vacuum Systems in Wettenberg and to the Smart Logistics Cluster at the RWTH Campus in Aachen. PVA Industrial Vacuum Systems, a leading manufacturer of highly innovative vacuum furnaces, marked the first stop of the study visit. PVA is just at the beginning with the Industry 4.0 process and as they have customized systems it will not be so easy to include IoT etc. into the system as they will need a solution for each customized system. On the next day, the DIA team was heading to the Smart Logistics Cluster at the RWTH Campus in Aachen: the cluster has currently more than 350 individuals from science and industry engaged in research projects. The research focus is to find solutions for the flow of information and goods in the cyber-physical world of the future. The research is based on the presumption that the digital world will be networked at near real-time via the internet.

Workshop of Pole SCS on Artificial Intelligence, La Ciotat 19th September 2019: On the 19 September 2019; Pôle SCS hosted the AI for the SMART PORT appointment at one of their members premises SmartDTV at La Ciotat from 9:30 to 14:30. The principle topic of this event was: how to combine both the scalability of the algorithms and their ability to make the best use of the computing resources and distribution problems of these algorithms (distributed computing resources, distributed data sources, ubiquitous computing, security and legal constraints, etc. …).This workshop comprised of Mr Redmond introducing the DIA project and how the collaboration with the Computer Research Institute of Montréal CRIM) and Pôle SCS was established through Mr Redmond’s activities while attending the EU-Canada Cluster Matchmaking Event in Toronto this year and in meetings organized specifically by the Government of Quebec in Montréal for the DIA project.

Study Visit in Sweden and Digimeet 2019, Estkiltsuna (24th -25th September 2019): DIA consortium has also flown in Sweden: DIA visited the Expectrum in Vasteras an open hub where enterpreneurs, kids, researchers and citizens are free to discover, play and work on digital topics ; the next day the

consortium has joined the DIGIMEET 2019 in Eskiltsuna, taking part to the opening of the MITC lab: a great day to discuss about digital challenges and opportunities together with the reagional autorities and the local companies. DIGIMEET 2019, organized by MITC, was a large one-day event that aimed to encourage and inspire manufacturing SME to further proceed with their digitalisation, presenting Swedish national policies and ambitions as well as large companies based in Sweden trends and support mechanism.
DIA Final event: IoTSWC , 29th-31st October 2019. DIA organized its final event on the occasion of the IoT Solutions World Congress in Barcelona, becoming ambassador and participating together with Cyber Secure Light CSL (an ESCP-S3 also funded by COSME). This cooperation led to the set up of a side-event, DIGITAL INDUSTRY: disruptive solutions to shape the future of SMEs", followed by a networking session between companies, benefitting from special admission conditions to our members and from more than 16000 visitors from 120 countries. Most of us have also participated in the B2B Brokerage event organised by ACCIO within the scope of Enterprise Europe Network activities.

Progress beyond the state of the art, expected results until the end of the project and potential impacts (including the socio-economic impact and the wider societal implications of the project so far)

The project leveraged the following Co-operation:
Alliance project other activities include; i) Creation of a European metacluster in the domain of Advanced Materials and Textiles, ICT and the emerging domain of connected materials, for security and defence and ii) Development and implementation of a joint internationalisation strategy for European SMEs of the sector. The DIA project was the main instigator for Pôle SCS to sign the Global EPIC Agreement and within this consortium there are several members that can advance EASME/ COSME projects. For instance; the ALLIANCE project is visiting USA as part of their strand 1 mission for which DIA PM organized a meeting between Safe Cluster (partner of ALLIANCE project) and bwtech@UMBC (Research & Technology member of Global EPIC) about arranging B2B, C2C and C2B meetings while in the USA and also learn from their soft landing agreements.
Adpack2 project activities aim to cooperate in order to implement their joint internationalization strategy towards defined target third countries (Canada, China and United States) and support AdPack2 SME members in establishing cooperation with relevant counterparts in the target countries. As part of this objective the DIA project with the Adpack2 project utilized the Global EPIC agreement to contact InvestSurrey. The impactor factor is to sign Memorandum of Understanding (MoU) with InvestSurrey and to support and assist SMEs wishing to go to Vancouver region as part of their soft-landing agreement opportunities https://investsurrey.ca/globalepic.
Cyber Secure Light project focuses on fostering interregional business-to-business collaboration deals for innovation and smart investments, between SMEs members of the regional clusters concerned by the project as well as other companies, relevant R&D providers and other stakeholders representing strategic market players for companies growth in the smart building/IT/cyber security sector through customized open matchmaking process. The project extensively features IoT technologies applications that can be observed in "smart building" systems and devices. As buildings we live and work in are getting better, smarter, and more connected. Most new facilities are equipped with network-connected products including entire IoT-enabled Building Management Systems for controlling lighting, power, heating, ventilation and air conditioning, security cameras, fire safety, elevator access and much more. As previously mentioned in Task 4.3 Dissemination Events – DIA project and Cybersecure Light project will be jointly hosting an event at IoT Barcelona Solution World

Congress. Also, Pôle SCS financial plan for the DIA project WP3 was used for the CyberSecure light project.
Cluster4 Smart (ERASMUS project) focus is to develop a curriculum and learning platform for Cluster managers involved in Industry 4.0. Because the DIA project is directly linked to IoT and manufacturing (smart factories) knowledge gained from the DIA project has been communicated to the Cluster4Smart project such as Pôle SCS financial plan and elements from WP1 market analysis.
IoT4Industry project aims to enable European manufacturing SMEs to integrate the use of IoT and related components to enhance their productivity, profitability, innovation capacities and keep them competitive on the global scale. The concept of the project is to put together leading-edge ICT and Advanced Manufacturing clusters to identify, connect, and encourage collaboration between relevant innovation actors of their respective networks and beyond, with SMEs as a first target.

As previously mentioned the majority of the consortium members have partnered a proposal to COSME call strand 2 Clusters Go International Programme. Based on further developing the results of strand 1, the general purpose of DIA2 is to foster cross-sectorial cooperation between the European clusters in the consortium and their SMEs members, as well as to support their SME members in going international towards target third markets in order to position them in the “Industry 4.0” global value chain. This will be done through the establishment of a European Strategic Cluster Partnership (ESCP) formed by 7 European clusters from sectors linked to both digital technologies applied to manufacturing and industry value chain, that aim to cooperate in order to implement their joint internationalisation strategy towards defined target third countries of United States; Brazil; and China.

Address (URL) of the project's public website

https://digitalindustryalliance.eu/