



**Photonics
For Advanced
Manufacturing**
By PIMAP Partnership

PIMAP Partnership newsletter #2
Focus on international business
missions



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PIMAP Partnership is funded by the European Agency for Small and Medium Enterprises under the Grant Agreement N° 7834072. The PIMAP Partnership is led by four clusters to support the adoption of photonics and microwaves technologies for the development of advanced manufacturing and related industrial applications. The PIMAP Partnership will help drive the industrial modernisation process in Europe and will provide a springboard for cluster SMEs to internationalise and support regional actions through the leverage of photonic technologies in key emerging industries. The inter-clustering actions will help match photonics / Technology solutions with market applications to ensure cluster ecosystems linkages are strengthened. Cross-sectoral cooperation acts as a main driver for innovation among the different cluster ecosystems.

As part of the PIMAP Partnership, two business missions have been organised in North America in order to establish strategic linkages with American and Canadian partners.



Successful business mission to the United States of America for the PIMAP Partnership and its SMEs

The PIMAP Partnership organised over February 4-7, 2019 a business mission to San Francisco with the participation of all project partners: ALPHA-RLH (France), Business Joensuu (Finland), Triple Steelix (Sweden) and Produtech (Portugal). The programme was held in conjunction with the Photonics West tradeshow, a major event on photonics, lasers and optics gathering stakeholders from all around the globe.

The first day of the programme was dedicated to the discovery of the American innovation ecosystem in the Silicon Valley. The programme was built in close cooperation with the French Tech Hub based in San Francisco in order to maximise opportunities for SMEs.

On Day 1, in the morning, the four cluster managers of ALPHA-RLH took the road to the Silicon Valley and went to Carbon, an innovative company based in Redwood City. Carbon works at the intersection of hardware, software, and molecular science. It manufactures and develops 3D printers utilizing the Continuous Liquid Interface Production (CLIP) process. Carbon is a very successful company combining expertise from different sectors (advanced manufacturing, new materials and technologies) to create a new product today used by major companies such as Adidas. This visit was really inspiring for the PIMAP partners and provided a concrete insight on the benefits of cross-sectoral cooperation.

In the afternoon, the PIMAP partners gathered at the French Tech Hub to have a consortium meeting. This meeting allowed the partners to reflect on the actions implemented so far in the context of the PIMAP Partnership as well as the upcoming activities: workshop with SMEs in Sweden, business mission to Canada. The perspectives to deepen and enlarge the partnership to other sectors was also studied to reach more applicative markets.

In the evening, a reception was held at the French Tech Hub on Photonics: trends and applications in the Industry 4.0. Over 60 participants, including business angels, VCs, analysts, M&A specialists, and big company scouts gathered at this Industry 4.0 event. A keynote speech was delivered by Joe Delfino, Founder & Director of Salescycle LLC on trends in photonics, with a focus on the latest technological development and opportunities to seize in the industry 4.0.

The PIMAP Partnership was prominently presented to the audience, with a presentation of the project and its cluster partners. In particular, the ambition and objectives of the PIMAP Partnership on the American market have been emphasised: 1) Identification of potential partners in the USA, 2) Organisation of business mission with SMEs, 3) Establishment of cooperation agreements with North American clusters.

Five SMEs operating in photonics had the chance to pitch and present their products and technologies to the audience. Three companies from the consortium made inspiring presentations on the latest innovations they developed: Femto Easy, Brighterwave Inc. and Muquans. Two American companies also pitched: Max-IR Labs and LyteLoop. The interactions with the audience highlighted a high interest for the potential of photonics technologies for the development of new products and services and fostered some connections.



All participants to the event gathered after the presentations to share a cocktail together and network before the start of the Photonics West tradeshow on June 5th.

All cluster partners went to Photonics West in order to initiate cooperation activities with potential partners and took part to the exhibition on June 5th and 6th. As both the ALPHA-RLH cluster and Business Joensuu had a booth on the fair, the project partners also had the chance to meet companies from the two cluster ecosystems.

On Day 2 in the morning, the project partners had the opportunity to meet with six companies and one technology centre from the ALPHA-RLH cluster: Aurea Technology, ALPhANOV, First Light, Femto Easy, Iriosome and Spark Lasers. The partners discovered the latest products and technologies developed by the companies of the ALPHA-RLH cluster. They also took advantage of their presence to the Photonics West tradeshow to present the PIMAP Partnership and enquire about the needs of their companies with regards to internationalisation and product development.

In the afternoon, all project partners had a fruitful meeting with the Executive Director of New York Photonics, Thomas Battley. The exchange allowed to highlight the complementary between the cluster located in New York / Rochester area and the PIMAP initiative. The possibility to engage further with New York Photonics will be studied by the project partners, through an exchange of information on where the cooperation potential would be the highest.

Following the discussions with New York Photonics, all project partners gathered to meet with Optonique, a cluster from the Quebec region. The partners exchanged with Marie-Christine Ferland on the opportunity to cooperate on knowledge exchange and market exploration between companies from the PIMAP Partnership and the Optonique ecosystem. The outcome of the exchanges was very positive and the project partners are quite confident in signing a Memorandum of Understanding with Optonique this year to formalise their cooperation.

On Day 3 in the morning, the project partners attended to a session on the Industry 4.0 and 3D-Printing at the Photonics West tradeshow. The presentation highlighted the latest evolutions in connectivity, computing, robotics, automation, and materials development. It also included keynotes from industry leaders on how they are addressing the challenges linked to the rise of the industry 4.0.

After this morning session, all the project partners gathered to get to know the companies of Business Joensuu on the Finnish pavilion. They all had the chance to meet with twelve companies, namely: Brighterwave, Optalek, VTT, Ampliconyx, Displelix, Nanocomp, Spectral Engines, Kimmy Photonics, Ladimo, INKRON, EMBERION and SENOP. The PIMAP Partnership discovered all their latest products and discussed possible business cooperations and opportunities to try the products.

On the last day of the PIMAP business mission, the project partners went to The Vault, a company supporting the access to the American market through mentoring, coaching and acceleration programmes. This visit was very relevant and useful for the project partners, who are seeking to facilitate the access to the American market in a long-term perspective through the development of long-term partnership.

In the afternoon, the project partners went to the Photonics West Tradeshow and met with Jack Schumann from Arizona Optics Valley. Together, they discussed the opportunities to initiate



cooperation between the PIMAP Partnership and the Arizona Optics Valley and explored the possibility of signing of Memorandum of Understanding within the year.

The PIMAP Partnership business mission to USA (Photonics West, San Francisco) was very successful and allowed the consortium to meet with many north-American companies (SMEs in peculiar) and initiate potential cooperation activities with several cluster managers from both the USA and Canada. The PIMAP Partnership will stay in touch with the different clusters encountered at the Photonics West and will seek to formalise the cooperation with the most promising contacts in order to create new opportunities for the SMEs of the Partnership.



The PIMAP Partnership organised a second mission to Canada and the US and closely followed the Matchmaking Event announced by the European Cluster Collaboration Platform in June 2019 in Toronto.

The US and Canada mission started on June 3rd 2019. The PIMAP Partnership met with the Aurubis company in Buffalo, US.

Aurubis produces high-purity, high-quality copper from copper concentrates and recycling materials and processes it into intermediate products. Copper scrap and a variety of other recycling materials are reintroduced to the economic cycle this way.

The PIMAP value chain was presented. Aurubis introduced the company, the process of manufacturing and different challenges in the industrial production. General market information in copper production and global challenges were introduced. The visit was very beneficial for the project. There are interesting collaboration possibilities.

The consortium went to Rochester, US and met with two Photonics Company visits **OptiPro Inc.** and **Optimax Inc.** Those visits were organized together with the New York Photonics cluster.

OptiPro Systems, located in the greater Rochester (NY) area, has more than 30 years' experience in developing and manufacturing precision optical fabrication machines and metrology systems. They are a global leader in designing and building computer-controlled grinding, polishing, and measuring equipment for the precision optics industry.

OptiMax value proposition is to prototype Optics In 1 Week - Prisms/Flats, Cylinders, Spheres, Aspheres. Optimax manufactures optical components to customer-supplied specifications; confidentiality is standard practice. Computer controlled machines grind and polish commercial and precision grade optics. Final inspection data is provided and on-time delivery is guaranteed.

Visits in OptiPro and OptiMax were a good example how value chain can work locally. The PIMAP Partnership project members introduced project and each cluster presented collaboration possibilities.



The next day, the PIMAP Partnership visited in **GS Plastic Optics**. GS Plastic Optics is recognised as one of the world's leading manufacturers of custom designed injection molded polymer optics. They solve complex optical challenges by providing polymer optics designed specifically for improving our customers' market share and competitiveness. Since 1980, GS Plastic Optics has been providing innovative solutions, including custom injection molding and single point diamond turning, to companies with precision polymer optic requirements.

The programme continued with the visit to **nextcorps** in Rochester US. NextCorps is a group of entrepreneurs, advisors, venture capitalists and staff committed to creating the next generation of world-changing Rochester technology companies. Headquartered are located in iconic Sibley Square, NextCorps provides a space designed for collaboration and "creative collisions" along with the meeting, lab and fabrication resources that your start-up will need to thrive.

Eventually the PIMAP Partnership company visited **Stelco** in Hamilton, Canada. The Steel Company of Canada - Stelco's original title - was given life in 1910 via the merger of Montreal Rolling Mills, the Hamilton Steel and Iron Company, and a handful of secondary companies located from Gananoque to Brantford. Today, Stelco has returned as a vertically integrated, independent Canadian steelmaker. Stelco steel is made by Canadians, in facilities built and managed by Canadians.

Due to big changes in the steel business and manufacturing, the Stelco company have to found out how to develop a green, environment friendly and modern manufacturing model. PIMAP Partnership can provide help in many different ways. There are big possibility to start close collaboration between Stelco and the PIMAP Partnership cluster members.





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The PIMAP Partnership signs two MoUs with American and Canadian partners!

The PIMAP Partnership is proud to announce the signature of two Memorandum of Understandings with American and Canadian partners.

The PIMAP Partnership has signed MoUs with:

- [Optics Valley](#), based in Arizona, United-States
- [Optonique](#), based in Québec, Canada.

The United-States and Canada are key markets for the PIMAP Partnership. The project partners initiated relationships with both clusters at the Photonics West fair in San Francisco in the framework of PIMAP 1st international business mission in February 2019. The consortium had the chance to exchange with both partners and explore basis for cooperation.

The objectives of the MoUs are to:

- To foster bilateral exchanges between the parties of each ecosystem
- To help SMEs to grow and access international markets
- To facilitate the organisation of trade missions to visit cluster members
- To organise joint participation and increase synergies in the participating trade shows and exhibitions

The willingness to cooperate between the PIMAP Partnership, [Optics Valley](#) and [Optonique](#) is now formalised with the signature of two MoUs. This document opens the door to new cooperation perspectives for the consortium.



Major benefits for the PIMAP Business missions to North America

The missions developed and the conclusions on its contribution towards PIMAP objectives, provided grounds of evidence of their relevance in:

- Supporting market intelligence actions and exploration of opportunities and synergies, for both clusters and their SMEs, e.g. as clearly results from the mission to the US by the occasion of the Photonics West fair;
- The establishment of contacts with key stakeholders towards the deployment of future actions, e.g. as it occurred with New York Photonics and the organization of a back-to-back mission to the neighbour state of New York, USA, in articulation with the EU-Canada cluster matchmaking, held in Toronto, Ontario, Canada;
- Fostering the signature of memorandum of understanding with 3rd country organizations providing means for effective collaborations between the ecosystems' stakeholders and the launch of joint initiatives (with US and Canadian clusters), and notably the ones signed during the Munich's Laser World of Photonics, held from the 24th till the 27th June, with Arizona Technology Council Optics Valley (US) and OPTONIQUE (Canada);
- Supporting awareness and establishment of contacts between ecosystems' entities and SMEs;
- Leveraging visibility of the clusters' initiatives and stakeholders;
- The identification of local stakeholders that would be key partners for deploying support services, e.g. soft-landing services, organization of business missions, etc.

The PIMAP Partnership is looking forward to strengthening its cooperation activities with American and Canadian partners.

