ECSEL Joint Undertaking
Electronic Components and Systems for European Leadership

innovative medicines initiative

ECSEL - IMI workshop - 5 July 2017, Brussels

Summary report

The aim of the workshop was to identify the common ground for closer collaboration between the ECSEL and IMI communities.

All presentations are available on http://ecsel.eu/web/events/imi-ecsel-workshop-2017-07.php

Opening

Bert De Colvenaer, Executive Director of ECSEL, recalled the aim of the workshop, as well as informed about the disclosure of the Lamy report, being a first step to FP9.

Pierre Meulien, Executive Director of IMI, explained why both communities have common interest in collaboration.

Then, Bert De Colvenaer briefly presented ECSEL's structure and operations. This was followed by Pierre Meulien's presentation of IMI structure and operations. In his presentation Pierre Meulien emphasised a growing role of big data and digital systems in all IMI activities, and thus a need for involvement of new sectors and players.

Subsequently, Hugh Laverty (IMI) presented an overview of the IMI portfolio and scientific priorities. Magda Chlebus (EFPIA) mentioned future trends in the healthcare, like: moving from disease managing to early disease interceptions; improvement of patient experience in clinical trials by using technology and transformation of health systems to a more holistic lifelong management of health. Then, she outlined the topics of common interest as following:

- Data management, among others, how to generate data which will be further used by decision makers
- How to define markers?
- Regulatory issues, acceptance of a real world, as clinical data are managed in very strict environment which does not reflect reality
- Patients adherence and compliance
- Security of data transactions
- Decentralisation of trials, bringing trials to patients at home, how to put more patients to trials?
- How to increase interaction between doctors and patients in multiple platforms in order to have more information
- Artificial intelligence

Patrick Vandenberghe presented an overview of ECSEL portfolio and Strategic Agenda focusing on smart health projects portfolio.

Ben Ruck (Chairman of the ECSEL Public Authority Board) kicked off the open discussion. He stressed the important role and responsibility of public authority in the ECSEL operations, and thus highlighted the need of ECSEL to be focused on strategy. However, having that in mind, he welcomed close cooperation with IMI.

Magda Chlebus added that both communities can collaborate in individual projects or such collaboration can be optimised through IMI programmes in ECSEL “light houses”. The question is how to bring ECSEL deliverables to IMI projects and vice versa, and thus to find the way to optimise what already exists.

In concluding the first open discussion Bert De Colvenaer stressed a need for learning to talk together and using the same language; for prioritising opportunities and for sorting out regulatory issues.

First thematic session on sensors/ diagnostic

- Andreas Lymberis (EC- DG CONNECT) - Converging Technologies Micro- Nano- Bio- ICT x KET for Health
- Radu Surdeanu (NXP) - secure identification, secure connections, trust architecture at all level
- Ronald Dekker (Philips) - Electroceuticals, project on the boundary of the two communities, on new generation of small implants. It offers opportunities for both undertakings; expertise and miniaturisation, organ-on-chip
- Agostino Galluzo (St Microelectronics) - sensors in medical applications. The next step: extending sensing capabilities and backing patient through Artificial Intelligence (AI), Orlando platform
- Theo Meert (Janssen R&D) - Multi- sensor technologies for continuous monitoring for a new health care model, made up of three pillars prevention- interception- cure.
- Gianluca Zia (Caretek) – SPRINTT project, multi- component treatment strategies
- Liesbet Lagae (IMEC) - silicon based chips (miniaturized sensors) producer; issues raised: clinical validation, how to ensure the critical mass to be brought to the market
- Adrienne Perves (CEA Leti – Health) - focus on biology, healthcare, security, from component development to system integration.
- Mirko De Melis & Soren Aasmul (Medtronic) - issues raised: how to improve innovation process to have more solutions to help patients, especially in comorbidities
- Adrienne Perves (Esther Alliance) - contractual PPP involving regions and research organisations

Open discussion, after the presentations, focused on: how to accelerate and improve ways to get respective technologies into use; how to identify common areas, prioritise them and create common activities; which domain will be basis for a future workshop, where any collaboration could add synergy.

Magda Chlebus suggested potential areas of interests: clinical trials; patient compliance and adherence (for development and outcomes).

Claudia Gärtner (Microfluidic ChipShop) raised the issue on how to benefit from the excellent results from projects and bring the products to the market.

Theo Meert added that there is a need of making better use of a number of already developed platforms.

Bert De Colvenaer shared his observations that there is a lot of technology push with an application failure and he added that a common point of interest for both communities is data management: data access and use.

Andreas Lymberis suggested that it would be worth reflecting on what could be done with the running projects and what could be put in the next calls.

Second thematic session on imaging hardware & software

- Peter Zandbergen (Philips) – digital revolution towards industrialisation and personalisation of care

The main question raised after the presentation was how to bring the innovation to the ground. For the latter the common ground for IMI and ECSEL communities on imaging hardware and software are among others: diagnostic in imaging for treatment selection and localisation, improved patient experience and outcome; digital pathology, molecular imaging.

Third thematic session on patient monitoring and platforms

- Kees Van Bokhove (The Hyve) – IMI project, the RADAR-CNS platform
- Theo Meert (Janssen) – parient monitoring and platforms
- Mirko De Melis & Soren Aasmul (Medtronic) – H2020 projects CARDIS & CRESSPACE

The discussion that followed was mainly about data integration issues and the quality of generated data. Industry voiced their need for having data banks connected. They expressed their readiness to help with data integration, but for that they need a super computer, or even a quantum computer.

However, during the discussion, it emerged that business case for quantum computing is still far away, while for artificial intelligence (AI) is closer, so it may be more appropriate to focus on AI and e.g. neuromorphic computing. Bert De Colvenaer suggested that if the industry argues that its usage will increase the life expectancy for EU citizens by a significant numbers of years, then it will be of great interest to both EC and EP that industry puts a formal request for quantum computing on table for FP9.

As conclusion of the third session, it was stated that thanks to development of multiple platforms patient engagement and treatments are improving. Regarding data generation, it was stressed that data should be generated in a way that they can be used both by humans and machines alike. Moreover, a key challenge remains to find manufacturable solutions.

Conclusive remarks

Bert De Colvenaer concluded that the workshop was an important first step for the further cooperation between ECSEL and IMI communities. It needs to be followed by more specific discussion on specific topics. He identified two concrete actions for the next six months, mainly:

- Follow- up workshop on sensors and diagnostics, where relevant projects will be presented
- Find a way to speed dating brokerage between both communities, to create opportunities for preparation for 2018 calls

Moreover, he suggested both technical review teams/ writing teams look at what is written in the both Research Agendas, respectively on health aspects in ECSEL and on diagnostic in IMI to do some tuning and subsequently in the light of this analysis to identify gaps and white spots, to have insight on what is not covered by either of programmes and what should be addressed to achieve communities' objectives. This was mentioned as a more long term objective for a preparation for FP9.

He reiterated that industry should send a mission oriented request letter, where they clearly define their needs to be included in FP9.

Pierre Meulien in his concluding remarks identified two thematic areas for future collaboration, mainly clinical trial paradigm and patient engagement. He stressed that personalised medicine is having a tremendous impact on the way the process is rapidly evolving. Thus, in his opinion there is a huge demand for technologies. This implies a need for a better integration between business opportunity, market leverage and academia on the one side, and on the other side for a better integration between technologies available and users. Regarding patient engagement, he reiterated that patients are driving force in the new health care system.

Elisabetta Vaudano (IMI) raised the issues that both communities rely on key opinion leaders, it would be interesting to see if they are the same or different.

Agostino Galluzzo (St Microelectronic) echoed that data and its related analysis as a common issue for both communities.

Radu Surdeanu (NXP) recalled that the clinical validation of technology will be added value for industry, which in turn will lead f to a right market uptake.

Adrienne Perves (CEA) agreed that data is a top topic for future discussion, including image data. She stressed the need for the collaboration of all communities on medtech. She also mentioned a flagship “Future of health care” to be taken into consideration.

Ronald Dekker (Philips) informed that Philips has launched the new proposal in ECSEL and invited for collaboration the IMI companies, so that Philips could work as a bridge. He highlighted a need for learning more about IMI activities.

Peter Zandbergen (Philips) concluded that too much emphasis was put on quantum computing, and added that a workshop on something specific is needed.

Yves Gigase (ECSEL) expressed the need to define a number of topics on which both communities could discuss. He addressed IMI to look on what can be used. He mentioned data protection issues, as platform does not include that aspect.

Gianluca Zia (Caretek) identified 4 main points in clinical trial as following: standardization, integration, communication and cooperation

For Theo Meert (Janssen), important aspects are scalable and payable biomarkers.

Kees Van Bokhove (The Hyve) stressed that both pharma and medtech industry are hovering around health. He emphasised the rapidness in innovation and thus request for more agile products.

Soren Aasmu (Medtronic) focused on remote monitoring and expressed a need for meeting to discuss next calls.

Mirko De Melis (Medtronic) in his concluding remarks mentioned a need for a workshop on clinical assessment for sensors.

Claudia Gartner (Microfluicic ChipShop) highlighted business aspect of the technologies development and stressed a need for a facilitator to bring developed technologies to the market.

Magda Chlebus (EFPIA) identified disease interception, patient compliance and adherence, security of data transaction and a need for an agile model to bring in for tech players as a future space for a common work.