

IMI speaking notes

European Innovation Summit - press breakfast

Tuesday 8 December, 8:30-9:30

European Parliament, MEP Salon

Introduction

Welcome! In front of you, you have the Executive Directors of six European public-private partnerships or joint undertakings that were set up to drive innovation in key industrial sectors. My name is Pierre Meulien and I'm the new Executive Director of the Innovative Medicines Initiative. Sitting alongside me are:

- Philippe Mengal, who is the newly-appointed Executive Director of the Bio-Based Industries Joint Undertaking, or BBI JU, which is one of the newer members of the Joint Undertaking Family.
- Eric Dautriat, Executive Director of Clean Sky, and Florian Guillermet, Executive Director of SESAR JU, both of which are working in the aviation sector.
- Yves Gigase, the new Acting Executive Director of ECSEL, the joint undertaking on electronic components and systems
- And Bert de Colvenaer, Executive Director of the Fuel Cells and Hydrogen Joint Undertaking, or FCH

In a moment I will ask all my fellow directors to present their organisations and their successes, but first I would like to underline the fact that although we are working in very different sectors, we do share a lot of points in common.

Firstly, we are all public-private partnerships between the European Union and key European industries as well as, in some cases, the Member States. We are all working in sectors that are essential for both Europe's competitiveness and Europeans' quality of life, and we were created to ensure that Europe's innovation ecosystem remains vibrant and competitive.

We have all succeeded in delivering results that are scientifically and technically excellent and directly address some of the biggest challenges facing our societies today. More broadly, we are creating new research communities that bring together all stakeholders in our sectors, and we are pioneering a more open, collaborative approach to research.

Finally, we are now starting to see the socio-economic impacts of our work – this really demonstrates the added value of the public-private partnership model, and that will be the focus of our discussions today. I'm now going to ask my fellow directors to present their organisations' results, and we'll take your questions at the end.

IMI presentation

Before discussing the Innovative Medicines Initiative, I would like to just remind you why IMI was set up.

Developing new medicines takes a long time (10 – 15 years or more) and costs a lot of money (USD 2.5 billion according to a 2014 study). Furthermore, the failure rate is high – out of thousands of compounds that enter drug development programmes, just a handful make it through to the patient. For challenging disease areas, like brain disorders, the costs are even higher and the timeframes even longer. This matters because there are still many diseases and conditions for which we do not have a cure – examples are Alzheimer's disease and diabetes. At the same time, Europe's drug development sector faces stiff competition from other parts of the world like the US and Asia.

IMI was set up to address these challenges by bringing all stakeholders together in large-scale projects practising open collaboration.

In the IMI model, EU funding goes to organisations like universities, small and medium-sized enterprises, and patient organisations. The EFPIA companies in our projects do not receive any EU funding through IMI, but contribute to the projects in kind, for example by contributing personnel, access to resources, etc. We now have around 70 projects up and running and they are delivering practical results that directly address challenges with an immense socio-economic impact. I will give you three examples.

Antimicrobial resistance

Antimicrobial resistance **kills 25 000 people in Europe annually** and costs the economy and society **€1.5 billion**. Resistance to antibiotics is rising and the development pipeline is running dry. If we don't develop new antibiotics, common injuries and routine operations and treatments like chemotherapy will be far more hazardous.

IMI's antimicrobial resistance programme New Drugs for Bad Bugs has 7 projects and budget of almost €700 million addressing scientific, clinical trial and economic challenges of antibiotic development. TRANSLOCATION is working out the structure of proteins found in the outer membranes of bacteria – this is important because getting antibiotics through these membranes is very difficult. COMBACTE has set up a pan-European network of over 500 hospitals in 38 countries to facilitate clinical trials of novel antibiotics. The first trial is already underway. ENABLE is helping SMEs and academics advance potential antibiotics through the tricky, earlier stages of drug development. DRIVE-AB is working to develop new economic models for antibiotic development that encourage and reward innovation while also promoting sensible use of antibiotics.

Autism spectrum disorder

Autism affects 1% of children and it is a lifelong condition. Furthermore, cases are on the rise and we don't know why. People with autism have difficulties with communication and social skills. It is a spectrum, so while some people with autism can live independently, others need round the clock care. There are no treatments designed specifically for autism – instead patients are treated for their symptoms using medicines designed for other conditions.

The EU-AIMS project has a budget of €38 million and brings together top researchers from academia, industry, SMEs and patient organisations. It is one of IMI's most prolific projects, with results spanning entire drug development chain from basic research into underlying causes of autism to working with regulators.

Results include discovery that brain changes associated with autism can be reversed. They are also uncovering new clues that could make it easier to diagnose autism much younger (e.g. responses of babies to social cues). They have found gender differences in the brains of men and women with high-functioning autism – important for interpreting study results. And they are working with regulators on guidelines on autism treatments – this is important for making sure research reaches patients.

European Lead Factory

A key tool in the earlier stages of drug development is a technique called High Throughput Screening (HTS), in which researchers screen large collections of chemical compounds in the hunt for molecules that could be potential drugs or be used in drug development in other ways. Although pharmaceutical companies have built up large libraries of compounds over the years, access to these collections has been tightly restricted to in-house use by the owners.

Meanwhile, the academic community is becoming increasingly interested in HTS, but public compound collections tend to be rather small and expertise in the area is scattered across many institutions. As a result, few public drug targets have been screened against large, high-quality compound libraries. This has hampered efforts to generate promising leads for the development of innovative drugs.

In the European Lead Factory, 7 pharmaceutical companies have contributed a total of over 300 000 of their own compounds to a joint European compound collection. Academics and SMEs are also adding compounds to the collection (almost 100 000 so far – by the end of the project the collection will have a total of half a million compounds). The compounds are housed in Scotland, while the screening centre is in the Netherlands.

Academics and SMEs etc. as well as large companies can apply to screen this unique resource – this has proven successful and the first screens have generated results that have reinvigorated drug development programmes in areas like cancer.

Conclusion

So these are just three areas where IMI is delivering really practical results and resources for the entire drug development community that are helping to make a difference in drug development. One SME working in the European Lead Factory project explains it well when he says that the project combines the innovation of academia, the agility of SMEs, the experience of pharma, and funding from the EU. And I will close there because that doesn't just express what IMI is about, it sums up what all the JTI's are about - bringing together all stakeholders in research to collaborate on these shared challenges.

Check against delivery