

# ERA-IB-2

## NEWSLETTER 13 - May 2016

### “Perspectives for IB in the bio-economy”

*Interview with Dirk Carrez*



**In June 2014, the Public-Private Partnership for Bio-based Industries (BBI) was officially launched. The private partner, the Bio-based Industries Consortium (BIC), joined forces with the European Commission to tackle the innovation ‘valley of death’, by seeking to**

**bridge the gap between research and valorization. Now, almost two years later, we have had the opportunity to interview Dirk Carrez, the Executive Director of the BIC, to ask him about the main achievements of the partnership and its broader socio-economic impact.**

*Dirk Carrez:* ‘The first call for proposals was launched in 2014 and the first results are now emerging. The first batch of projects has been selected and funded. In addition to research projects and demonstration projects, four major flagships – in other words, production plants – will also be set up by the end of this year. If we look at the impact for the years ahead, this will result in new jobs, new feedstocks and new products. These projects also mean more visibility for the bio-economy as a whole and the EU is now looking at various ways to help that economy. For example, the European Investment Bank is seeking to identify the challenges and bottlenecks that can hinder investment. In addition, the regions are also becoming very active within BBI and BIC. This could lead to extra complementary funding.’

**ERA-IB: ‘You say that these production plants could have a significant economic impact. Can you tell us how many jobs this might create?’**

*Carrez:* ‘At the moment, the production plants are in the construction phase, which means about 100 jobs in the

short term. But you also have to consider the indirect jobs the plants will produce. The first flagship is being built in Italy. This will result in an indirect incentive for agriculture throughout the entire region. Agriculture has declined steadily during recent years, but this initiative is once again stimulating farming activity via regional and development funds. Consequently, the investment in the production plant not only means job creation in the short term, but will also have an impact on agriculture in the long term, by generating new products that will be brought to market. We estimate that for every one job directly linked to the production plant, there will be about three to five jobs created indirectly elsewhere.

As far as the other three flagships are concerned, these have been selected and negotiations for the grant agreement with the BBI are now taking place. Within the next two to three months, details of the flagships will be announced. We expect that this call will attract more than 800 million euros of private funding in total. As well as the flagships, the PPP will also fund the launch of six to eight new demonstration projects.’

**ERA-IB: ‘How do you see the future of this PPP after 2020? Which opportunities do you think should be exploited by industry and the European Union?’**

*Carrez:* ‘European financing will remain crucial for attracting projects and companies from Europe and overseas; for example, the United States. We anticipate that other continents will also continue to fund and invest in our work. But if Europe decides to stop investing in the bio-economy, it would put us into a very precarious position.

The big advantage of this type of funding (cf. BBI funding) - compared, for example, to what happens in the USA - is that it brings different sectors and industries together. This leads to the creation of new value chains, with different partners working together within a single project. This is the real added value of BBI, a value that does not exist in other continents.

For example, the food industry is showing much more interest in bio-based industry. This is something you wouldn't normally expect, but now the food industry recognizes an increasing number of opportunities to valorize its waste streams. The interest in bio-based is already concrete in the dairy industry, the hazelnut and olive oil industry and several other food industries. They can see the merit of investing in calls to create new value chains, calls where public funding is also foreseen for the food industry. Where such funding is available, interest is shown and visibility will increase. In April of this year, there will be a new call with funding for two flagships specifically for the valorization of waste products, waste streams or side streams from the food industry. These initiatives inevitably mean greater visibility: companies will become more and more interested and will see new opportunities to work together with other sectors for their mutual benefit and valorization. For Europe, this is an important issue. Europe is not so much interested in bulk products, but in fine chemicals and other specialist products derived from durable feedstocks.'

### **ERA-IB: 'Would it be useful to look further than European partnerships and invest more in pan-European cooperation?'**

*Carrez:* 'There are companies from the United States and Brazil who have shown interest towards Europe. This is very different from just a few years ago. It is the clear result of the increase in visibility on the one hand and the fact that there are more funding opportunities for research, demonstration and flagship projects on the other hand. Interest for Europe from outside Europe is always a good thing. Some of these overseas companies have the potential to be useful partners.'

We are not only interested in companies who can deliver products, but also interested in plant owners and companies who can bring products to market. It would be highly beneficial if we could involve these companies with the production units that already exist in Europe. This would create new perspectives and new markets. For example, if companies like Coca-cola and Nike, following the example of European giants like Lego and Ikea, can become active in Europe in a way that would allow them to make use of and commercialize our bio-based products, this would be a very important step forwards.'

### **ERA-IB: 'Are there any misconceptions amongst the general public about the bio-based economy and biotechnology? If so, what are they and how should the different partners (government, industry, the academic world) address this?'**

*Carrez:* 'I don't think that 'misconceptions' is the right word, but we need to be careful that we don't move in that direction. Within the framework of green biotechnology, for example, there is the lively debate about GMOs (genetically modified organisms). At the moment, there are no GMOs on the market in Europe, and this will probably not change in the near future. This situation obviously has an enormous impact on the innovation - and therefore the economic viability - of the companies and research centers who focus on green biotech. If there is no market, the interest in research and innovation will decrease. Within the bio-based economy, there is a similar but more limited trend relating to biofuels. Several years ago, there was considerable support for biofuels, also from the political world. But after a number of public statements and recent studies by NGOs, it is noticeable that the support for biofuels is now decreasing. This will have an unavoidable impact on research and on the further development of markets. There will be less investment by companies in research and innovation. We have to watch this trend and make sure that it does not contaminate the entire bio-economy. We cannot deny that the discussion about food versus fuel and food versus bio-based in general is now taking place. We need to make sure that people are properly informed.'

Another possible 'threat' could be the discussion about technology that is increasingly coming to the fore. For example, synthetic biology. Is this justified? Does it have to be labeled? Does it have to be restricted? These discussions will also have an impact on innovation. We need to stay focused and respond pro-actively, explaining to people what the bio-based economy really means. There is a lot of ignorance. The consumer does not know the difference between bio-plastic and plastic, bio-chemical and chemicals, bio-fuel and fuel. That is why big companies like Coca-Cola, Ikea, etc. can help to give these bio-based products a 'face'. But it is equally important that we continue to invest more heavily in

informing consumers about bio-based products. ‘

### **ERA-IB: ‘How can the government inform/sensitize the consumer about the bio-economy and bio-based products?’**

Carrez: ‘The US offers a good example. There they have set up a national program, the BioPreferred Program. Their goal is to increase the purchase and use of bio-based products. The program consists of a mandatory part, which dictates the purchasing requirements for federal agencies (the army, the health service, etc.) and their contractors, and a voluntary part, which encourages the clearer commercial labeling of bio-based products. These labels create greater visibility towards the consumer. This is something we do not yet have in Europe. There is no public procurement policy at a European level. Instead, every region or country has its own policy. As a result, the only way to give bio-based products more visibility in Europe is to stimulate big companies to commercialize those products. Bio-based products are usually a little bit more expensive in the beginning. It may be possible initially to pay these companies a premium, so that the products are less expensive for the consumer. Another big advantage is that these companies also have huge marketing machines, so they will be able to trigger consumers more effectively.’

### **ERA-IB: ‘The Biobased Industries Joint Undertaking (JU) is consulting its stakeholders to create a new Strategic Innovation and Research Agenda (SIRA) and a new work plan for 2017. Do you think the end result will be similar to the current SIRA, almost like an extension, or do you expect major changes?’**

Carrez: ‘It is difficult to say too much in advance, because the stakeholder consultation is still running, but I can already detect a number of tendencies. If we look at the current SIRA, we can see that the value chains are sector-bound: e.g. the lignocellulosic value chain is connected to the biofuel sector, agro-food is connected to chemicals, the fermentation of sugar to building blocks, and so on. A first new tendency is that we seem to be evolving towards new and more complex types of value chains. Different sectors are now working together more closely. In this way, we can create new collaborations that are independent of a particular sector. For example, waste is becoming a new value chain, with the food industry

now seeing new opportunities in cooperation with the chemical industry to valorize their side streams.

A second new tendency is that new feedstocks are being used. For instance, there is increasing interest in algae and seaweed. Similarly, municipal waste is also becoming an important feedstock in Europe. This new feedstock also attracts a new group of stakeholders; namely, the cities and the regions.

A third tendency is the production of new products and the creation of new markets, which leads to greater interest from brand owners.

At this stage, these are the main tendencies we expect to see in the new SIRA.’

### **ERA-IB: ‘What are the biggest challenges facing industry on the one hand and the public authorities on the other hand to develop a viable biobased economy?’**

Carrez: ‘If you want to attract investment, you not only need a market but also a non-expensive feedstock. Once you have the latter, you can create the former by developing competitive products. This is one of the main challenges. How can we make products less expensive? The answer is simple: by making the production process less expensive. The feedstock prices in Europe are relatively high, as are transport and energy costs. That is why it is difficult in Europe to produce products at a competitive price. For this reason, we need to focus on fine chemicals with a higher added value, rather than on bulk chemicals.

Secondly, it is vital to have a more consistent European policy, if we want to attract greater investment. For instance, the European policy towards biofuels has changed significantly in a relatively short period. Initially, there was strong support, but after a couple of years this (financial) support decreased. As a result, investment also declined.

Last but not least, if we want to attract investment from Eastern Europe we will need to have greater political awareness. There are plenty of opportunities for the use of feedstocks in the new member states, but there is no industry base to exploit these opportunities. We need structural funds to attract this industry.’



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### **ERA-IB: 'Has the work of ERA-IB contributed to the European knowledge-based bio-economy and what are the merits of such an ERA-NET?'**

*Carrez:* 'ERA-IB has done important work. ERA-IB started with the creation of a European network before there was ever mention of a BBI. This ERA-NET was the only way, apart from the other framework programs, to promote cooperation between member states and to create visibility. It is crucial to invest in cooperation between member states and to encourage regional and national funding. Why? Because the largest part of the financial resources for research and innovation comes from the member states and the regions.'

We should also remember that it is not easy at EU level to attract SMEs. The advantage of the ERA-NET scheme, and especially of ERA-IB, is that there is a clear focus on local stakeholders and SMEs. The involvement of SMEs in ERA-IB projects is significant.'

### **ERA-IB: 'With regard to the COFUNDCoBioTech, do you think it is a good idea that the three ERA-NETs (ERA-IB-2, ERASynBio and ERASysAPP) are planning to work together?'**

*Carrez:* 'Yes, I think it is a good initiative, because these ERA-NETs are all closely related to the biobased economy. However, until now they have been working more or less independently as three different networks, each with different characteristics. As a result, some

member states are active in one ERA-NET and not in another. Some parts of the ERA-NETs work together, others do not. Some focus on the academic world, others focus on the SMEs. There is too much fragmentation. The planned collaboration is an important step in the right direction for the bio-based economy.'

### **ERA-IB: 'What advice would you give to the three partners about their future cooperation?'**

*Carrez:* 'I would advise them to look for synergies; for example, with the BBI or other (industry related) initiatives. Every year, we at the BBI develop a new work program. It could be interesting to consider setting up a super-ERA-NET within the bio-economy, where we can work together in a complementary way to create synergies. This can optimize the use of public funding. Within such a collaboration, the ERA-NET partner can focus on the Technology Readiness Levels (TRL) up to 5 or 6, while the BBI can then move on to the demo and flagship levels (TRL 7 and 8). We can check which ERA-NET-projects are interesting for the BBI to take on and further develop, working them up from the research phase to market readiness.'

Other initiatives, like the Knowledge Innovation Communities (KICs), also offer interesting possibilities for cooperation. The KICs – for example, the KIC Climate Change – often have a pillar aimed at the bio-economy, with projects that could be of interest for companies or industry. However, we need to invest more in consultation and

collaboration, since this is the best way to bring such projects to the market at a commercially interesting level. This, in turn, will subsequently lead to further new investments.'

### **ERA-IB: 'Who should initiate this kind of cooperation?'**

*Carrez:* 'There are different possibilities: the BBI with the ERA-NET or ERA-IB with BBI and BIC. From perspective of the industry consortium, we would like to sit together with ERA-IB. If the BBI can facilitate this initiative, why not?'

*With thanks too Dirk Carrez.*

### **BBI 2016 Call Launch**

The Bio-based Industries (BBI) Joint Undertaking (JU) is responsible for the implementation of open call for proposals for research and innovation actions and innovation actions, as well as coordination and support actions, in line with the Horizon 2020 rules for participation.

The 2016 Call for proposals was launched on 19 April 2016. The submission deadline is 8 September 2016 before 17.00 (CEST). The full list of topics under this Call can be found on the Participant Portal and in the 2016 Annual Work Plan.