



## **PoliUniBus**

### **A Paper for Consideration at the UK PoliUniBus Workshop**

#### **C4FF Paper on current state of affairs with regard to the UK Government policy and practice supporting Education and R&D in the UK**

**MariFuture Development Paper – February 2021**

**Professor Dr Reza Ziarati – Chair, C4FF**

### **Summary**

C4FF view of industry and academia relationship is well known and can be reviewed at [http://www.c4ff.co.uk/history/papers/The\\_Chair\\_views.pdf](http://www.c4ff.co.uk/history/papers/The_Chair_views.pdf). The view is based on the fact that we need to bring the two worlds of business and academia together. It has to be realised that the interests which business has in wishing to establish or improve links with academia are different from those of the academia, and may not always be compatible. The educationalists can aspire to be altruistic; business people can only afford to be altruistic when they have made more than enough money for the maintenance and development of their businesses. This is not a moral judgment – it is a pragmatic one. Academia needs the industry to support it in the development of its programmes so that they can identify and respond to the needs of industry and commerce. It needs industry to seek funds to progressively develop its laboratories, and it needs industry to develop its staff members. Industry needs academia to improve the quality of its employees, present and future; it needs academia for technological progress useful to business, and to better manage its business; it needs academia for the formation of its future customers, and so of the demands for its products and services (Ziarati, 2016). My Centre recently has developed a powerful university-business platform known as UniBus and recently helped to prepare a means of helping policy makers to become involved in setting up policies and strategies to make the two worlds to work together. A summary of the this latter project,, known as PoliUniBus is given at <https://www.marifuture.org/Projects/Projects.aspx>. My hope is that the Government will help us to use the UniBus platform and adapt the outputs from the PoliUniBus to encourage greater interactions between universities and business. The importance of PoliUniBus is not its Platform's sophistication but its focus in promoting SMEs. SMEs do not have resources and are too busy making a living and keeping their heads above water. When we developed IMS, the Japanese adapted it wholesomely and when FoF was developed the EU set up a comprehensive system to adapt Europe wide and help us set up several centres throughout the EU. Our engine designs were bought by the US and many defence companies.

### **Background to PoliUniBus**

C4FF was involved with setting up the Application of Computing in Manufacturing Engineering (ACME) which is now transformed into InnovateUK and the development of Teaching Company Scheme (TCS) and Teaching Company Centres. The TCS was based on an earlier system used in NHS and was a formidable scheme which was in my view the only mechanism in the UK that brought the Universities in contact with SMEs in an effective way and helped graduates involved to find worthwhile and meaningful jobs. C4FF was particularly keen on TCS and later with the Manpower Services Commission (MSC) work under the auspices of the then Employment Department. A good example of the system can be found at [http://www.c4ff.co.uk/history/awards/Eurotecnet\\_project.pdf](http://www.c4ff.co.uk/history/awards/Eurotecnet_project.pdf).

As per your discussions taking place in the Parliament and the House of Lords, it is quite apparent that at the moment apart from our RC's and InnovateUK programme we do not have a comprehensive strategy to replace the EU funded

---



programmes and its efficient and effective performance assessment system. The EU assessment system is fair and well established based on best practices developed from EU member states previous experience. C4FF has been involved with the UK Government Education, Research and innovation initiatives and a review of my organization's websites clearly show the EU funding model make sense as it developed for all the previous Education Research and Innovation programmes; all education and innovation programmes are now grouped and placed under the Erasmus+ programme and that all Research and Development programmes grouped under the H2020 including the Factories of the Future programme which C4FF initiated in 1979 as Intelligent Manufacturing Systems (IMS) initially which led to development the manufacture

([www.manufuture.org](http://www.manufuture.org)) and later MariFuture ([www.marifuture.org](http://www.marifuture.org)). With support from the then DTI C4FF organised a series of conference under ManTec (see for examples

[http://www.c4ff.co.uk/history/papers/Supporting\\_The\\_Government\\_in\\_Industry\\_Academia\\_Collaborations-Mantek\\_Conferences.pdf](http://www.c4ff.co.uk/history/papers/Supporting_The_Government_in_Industry_Academia_Collaborations-Mantek_Conferences.pdf) or

[http://www.c4ff.co.uk/history/papers/Rover\\_Partnership.pdf](http://www.c4ff.co.uk/history/papers/Rover_Partnership.pdf) or

[http://www.c4ff.co.uk/history/papers/Establishment\\_of\\_Manufacturing\\_Centres\\_and\\_Sample\\_Conference.pdf](http://www.c4ff.co.uk/history/papers/Establishment_of_Manufacturing_Centres_and_Sample_Conference.pdf))

C4FF was one of the UK 10 top technology projects (UK Tecnet) which was included in the first batch of EU EuroTechnet and later became one of the most sought after projects in the EU viz., Factories of the Future (FoF). The complimentary impact of European Regional Fund (ERDF) as well as the one funding programme that is not often mentioned European Social Fund (ESF) was crucial to the development of multi-faceted projects where a country could set up a strategy for the development of major programmes seeking funding from different funding mechanisms, buildings from ERDF, for social engineering from ESF, for Research from the Framework programme now H2020, for education and innovation from the programmes now included in Erasmus+. Did you know that one of the most valuable programmes to SMEs has been different streams of Erasmus+ programmes? C4FF does not know if the Government Ministers or officials are aware that Erasmus+ is not just for student exchange but a whole range of initiatives. While Erasmus+ includes student exchange programmes ([Mobility](#) (Key Action 1)) it also provides several opportunities for funding education, research and innovation initiatives ([Cooperation for Innovation and Exchange of Good Practices](#) (Key Action 2); [Support for Policy Reform](#) (Key Action 3) and there are also two separate areas of the programme for [Jean Monnet](#) activities and [Sport](#).

Furthermore, C4FF does not know if the Government is aware of Industry Leadership Councils which have now been renamed but these councils work on setting up strategies for a whole sector or industry for instance Maritime Industry Leadership Council (MILC) helped to match capacity/capability for the national future development and needs and advised the government to provide not only finance but a whole range of support where capabilities are located. The scheme was so successful that the EU replicated the model (Maritime Alliance) and set up several of these for several sectors/industries.

C4FF hopes that the Government put a greater effort is supporting the SMEs once we exit the EU. The well-being of SMEs is crucial to our future and to date most effort in supporting SMEs has been superficial in my view. C4FF is in contact with several ministers and the Prime Minister on a whole range of subjects but we hope the House of Lords do their work in finding what was good and retain it and find a fair means of rewarding past performance.

We would wish to remind the Government that another scheme known as EUREKA should be fully supported. In a recent letter to me from James Duddridge, stating that [BEIS has secured a £30 million financial uplift for EUREKA funded projects for the period 2018 to 2020](#) is first not enough to replace H2020 and Erasmus+ and rather misleading as my own centre having secured EUREKA funding for two of our projects OPTIMU and DayTime after many months of hard work and going through a very competitive assessment regime was told that the government has decided not to fund some of the EUREKA programme streams putting my Centre in a very difficult financial situation. Whilst C4FF has many

---



centres worldwide, these all became independent as of 1996 and my centre assumes a coordinating role until Framework 6 made us independent which forced us to seek funding in order to retain our expertise of knowing how to seek funding for our SME members. With the advent of BREXIT it probably would mean the only EU platform ([www.marifuture.org](http://www.marifuture.org)) we are running will come to an end. MariFuture is one of the largest and most successful maritime education, research and innovation networks in Europe. C4FF is in contact with government officials and ministers but due to the complexity of funding systems, C4FF has come to the conclusion that they do not have sufficient knowledge of these funding mechanisms and without knowing what they are doing they are virtually killing many good projects and initiatives currently funded by the EU particularly for SMEs. It is on this basis that we decided to write to selected key government officials and noble Lords so that they give some time to find out what is going on before deciding on a new system for the UK because there are complexities and there is a great deal of confusion. A good example is James Duddridge's misunderstanding of EUREKA and his misguided advice in directing us towards this programme and not knowing how it works and that not all EUREKA streams are eligible for UK funding.

C4FF has been supporting the houses of parliament and with support from Lord Strachan developed the first Hybrid car in the UK some 30 years ago ([http://www.c4ff.co.uk/history/papers/Emerging\\_transportation\\_system.pdf](http://www.c4ff.co.uk/history/papers/Emerging_transportation_system.pdf); [http://www.c4ff.co.uk/history/awards/National\\_Diploma-Hybrid\\_Vehicles.pdf](http://www.c4ff.co.uk/history/awards/National_Diploma-Hybrid_Vehicles.pdf); [http://www.c4ff.co.uk/history/awards/Design\\_and\\_Use\\_of\\_Hybrid\\_Vehicles\\_National\\_Prize.pdf](http://www.c4ff.co.uk/history/awards/Design_and_Use_of_Hybrid_Vehicles_National_Prize.pdf)). We believe the UK system is fine if we incorporate the current EU programmes such as ERDF, ESF, H2020 and Erasmus+ and their assessment system into it. In all programmes we have been involved with and promoted the concept of Rapid Prototyping (RP) by bench marking it against the best there is. If anyone knows what happened to Lucas CAV and Bryce in the early 80s they will understand the importance of bench marking and RP. My new venture team at Lucas once trailing behind Bosch started to take a lead developing the fastest reacting solenoid, high pressure injection system, microjector, common rail with support from the Atomic Energy Research Establishment at Harwell and many supplier SMEs. BOSCH could not believe a small name like Lucas Bryce has taken the lead in high tech fuel injection systems.

We have our own STEM group to support schools ([www.inspire-group.org](http://www.inspire-group.org)) our own Air Quality group ([www.cwairquality.com](http://www.cwairquality.com)) as well as a Climate Action Network and our own University Centre ([www.bahcesehir.ac.uk](http://www.bahcesehir.ac.uk)) and our own Business Centre ([www.berkeley-house.co.uk](http://www.berkeley-house.co.uk)) yet these are all jeopardized because the income from our main business ([www.c4ff.co.uk](http://www.c4ff.co.uk)) is drying up due to Brexit and now Covid-19. The Government advice in directing us to EUREKA as explained earlier has been disastrous. Prime Minister is aware of our predicament but so far is too preoccupied with Covid-19 and Brexit to offer us a way out.

C4FF hopes the above is helpful and we are more than happy to support the Government including our noble Lords in helping to develop a world-class system of education and R&D as well as a fair means of individual and project performance assessment for the UK. Furthermore, we hope that EUREKA is accepted as whole and not part of it. EUREKA's ITEA 3 offers unique opportunities but InnovateUK is unwilling to fund it, the programme is one of the most important funding systems for smaller companies as it is near market and concerns the adaption of new technologies.

Special attention has to be made to existing system set up to bring universities and business together. While we have had good means to assess academic research (Research Assessment Exercise (RAE) and now replaced with Research Excellence Framework (REF) and as a good means to assess quality of teaching viz., Teaching Quality Assessment (TQA) which is now replaced with the Teaching Excellence Framework (TEF) there are really no means of replacing the EU funding mechanisms which were supplementing the Research Councils funding and other funding bodies such as InnovateUK.



Furthermore, C4FF has been very active with the Chartered Engineering Professional Institution who are the custodian of industrial practice and standards. These institutions play a major role in safeguarding the requirement of industry and have been established to promote research and invention to help mankind.

With advent of the UK leaving the EU there is an opportunity to see how Erasmus+, particularly Key Actions 2 and 3, can be replicated in the UK. The good news is that the UK still wishes to continue with HORIZON programme which encourages research and industry-academia collaborations.

