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Dear  
Reader

2D Layered Materials (2D LM) hold enormous promise for enabling new device concepts and novel applications, owing to their planar nature and their exquisite, tuneable properties. Despite the rapid advancement of many aspects of Layered Materials (LM) technology, many emerging applications are hampered by the lack of an efficient, defect-free and controllable technique for the transfer of pixels of LM onto desired substrates.

The core concept of this proposal is the development of a novel nano-manufacturing technology based on laser transfer techniques, which will enable the rapid, intact transfer and engineering of 2D stacks and heterostructures for optoelectronic, photonic and organic electronic devices.

To achieve this, we will benefit from the unique advantages of the Laser Induced Backward Transfer (LIBT) and Laser Induced Forward Transfer (LIFT) techniques, which among other attributes, offer the capability for intact transfer of any 2D LM with high lateral resolution (micron scale), the transfer of 2D heterostructures and compatibility with a variety of substrates, including Si and flexible substrates.

The implementation of the proposed technology will offer a chemical- and defect-free transfer of 2D monolayers with high precision: exquisitely clean Si-2D semiconductor (SC) heterostructures will be demonstrated using LDT and enable the fabrication of Near-IR Si emitters. Single layer and defect-free Graphene pixels will be printed on flexible substrates for highly sensitive ultra-thin sensors.

These breakthroughs in the fields of Si emitters and flexible touch sensors will validate the importance of LEAF-2D and facilitate the incorporation of 2D materials in a plethora of emerging technological fields.

**Objective 1: Controllable transfer of intact and defect-free 2D material monolayer pixels by means of Laser Direct Transfer processes starting from 2D material films. Lateral resolution down to micron-scale.**

**Objective 2: High quality 2D films growth (Graphene, h-BN, and direct bandgap 2D semiconductors).**

**Objective 3: Apply LEAF-2D's technology for the fabrication of 2D material enabled Si emitters integrated on Si and touch sensors on flexible substrates.**



National Technical  
University of Athens

UNIVERSITY OF  
Southampton



Bar-Ilan University



Graphenea



EXELIXIS  
Research  
Management  
& Communication



## EXELIXIS

Research  
Management  
& Communication

## Athina Thanopoulou

Exelixis Research Management &  
Communication, HR Manager



### What is the main expertise of EXELIXIS?

### Interview

We are an SME based in Athens, Greece. We provide consultancy and a wide range of management services in the field of Research and Technological Development including dissemination and communication of scientific results via multiple channels (websites, social media, audiovisual means, printed material etc). We also support scientists in the whole spectrum of day-to-day management services for the implementation of national and international research projects.

### How EXELIXIS contributes in LEAF-2D project?

In LEAF-2D, EXELIXIS is leading WP5 "Dissemination and Exploitation". In particular, we are responsible for the detailed planning and development of Communication and Dissemination Strategy and knowledge management. This includes organization of project meetings to ensure optimal internal communication, in-house creation and maintenance of the project website and social media, design of visual identity of the project, production of communication material, distribution of an electronic project newsletter and other similar actions.

We also support the Consortium in IP issues, including the conduct of an internal IP survey, drafting of IPR Agreement, organizing training sessions on IP.

## **Tell us a few words about your team**

EXELIXIS is a Small Enterprise, currently consisting of six employees, which makes us very flexible in terms of decision making and internal information flow. Our background spans from humanities and economics to chemistry, graphic design and public relations. Our common link is our experience in the management of research projects, especially international consortia.

## **Do you expect that the your tasks in LEAF-2D will be fully achieved?**

We are very optimistic that at the end of the project, a clear message about the findings of LEAF-2D will be conveyed to relevant stakeholders and the lay public. To this end we will use as much as we can the networks of our partners too. Apart from the communication of the research findings per se, a very important goal of our communication policy, as we have promised in the application, is to sensitize as much as we can the public and stakeholders about the fundamental role of the EU funding in the support of scientific research.

## **Is there a particular message that you want to send to our readers?**

We invite you to visit our website ([exelixism.com](http://exelixism.com)) and through it our social media. Follow us, connect with us to learn first about our and our projects' news!