

Multifunctional Graphene-based Nanocomposites with Robust Electromagnetic and Thermal Properties for 3D-printing Application H2020-MSCA-RISE 734164-Graphene 3D



MINUTES

of the MB & MC Meeting in Salerno, Italy

Meeting Date: 30 May 2019

Location: University of Salerno, Fisciano, Salerno, Italy

MB Participants:

| Partner Acronym: | Country: | Name: |
|------------------|----------|----------------------------------|
| IMECH-BAS | Bulgaria | Rumiana Kotsilkova |
| CNR (IPCB) | Italy | Clara Silvestre, Marino Lavorgna |
| UNamur | Belgium | Philippe Lambin |
| UniSa | Italy | Patrizia Lamberti |
| NanoTechLab | Bulgaria | Evgeni Ivanov |
| SIPT | Georgia | Natia Jalagonia |
| INP-BSU | Belarus | Polina Kuzhir |
| MackGraphe | Brazil | Ricardo Andrade |

AGENDA

| 09h00-09h15 | General project status - by Project coordinator |
|---------------|---|
| 09h15-10h45 | WP2-WP7 Scientific progress and issues; Deliverables; Milestones – 15 min per WP leader M. Lavorgna (WP2), C. Silvestre (WP3), P. Lamberti (WP4 and WP5), Ph. Lambin (WP6), and E. Ivanov (WP7) |
| 10h45-11h00 | coffee- break |
| 11h00-11h15 | Review on the Project developments: quality management of project and management of resources (WP1)– <i>Project Coordinator</i> |
| 11h15-11h30 | Review on secondments planning for 2019 (WP1) – Secondments Manager |
| 11h30-11h45 | Status of project dissemination and communication (WP8) – Dissemination Manager |
| 11h45-12h00 | Exploitation management & Intellectual Property (WP8)– Exploitation Manager |
| 12h00-12h30 | Next step definition, debriefing and conclusions – Research/Technical Manager |
| 12h30 – 13h00 | Closing remarks |



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Minutes of the MB&MC meeting:

The first part of the MB meeting was dedicated to the research achievements of the Graphene 3D project.

- 1) General project status at month 29 was presented by the Coordinator, R. Kotsilkova (IMech-BAS). She has informed that all deliverable reports are approved by the EC at the 1st stage. The Work Program is implemented successfully and no deviations from the Annex 1 are observed.
- 2) The Leaders of the WP2 and WP3 (M. Lavorgna), WP4 and WP5 (P. Lamberti), and WP6 (Ph. Lambin) have presented briefly the main scientific achievements of their work packages and what has to be done within next months, to the end of 2019.

Discussion on the WPs presentations:

Polina Kuzhir: What is the thickness of the graphene layer covering the neat polymer core of the novel filament, produced by the partner from Sichuan University, China? This filament, consisting of dielectric core and conductive shell will be probably good for application in the electromagnetic lower frequency range, but not so perfect for application in the terahertz range.

Marino Lavorgna: The neat polymer (PLA) filament has diameter of about 1mm, and it is enriched by graphene core of thickness 0.7-0.8 mm. The electromagnetic behavior will be further investigated.

Patrizia Lamberti has answered the questions on WP4, that the next challenge will be to find appropriate test methods for characterization of electrical and thermal conductivities of the 3D printed cell structures.

Philippe Lambin has introduced the latest modeling achievements for the open cell and closed cell structures, which are provided to WP7 and to other partners for validation by 3D printing.

The second part of the meeting was dedicated to project management, secondments management, dissemination and exploitation activities.

3) The Project Coordinator, R. Kotsilkova has made a monitoring of the project implementation based on the KPIs, comparing the current status at month 29 and the KPIs at month 48, according to Annex 1. It was stressed that the Consortium has exceeded twice the KPIs for number of project publications, invited talks and number of seconded researchers. There is no delays in the KPIs at this stage.

The Coordinator has informed for management and expenses of the centralized budget. The budget for the workshop in Capri may be increased to 20 000 Euro and a rest of budget for meetings of about 11 000 Euro was calculated that may be used for other meetings or other issues.

C.Silvestre has proposed the rest of budget for meetings to be sheared between partners at the project end.

4) The Secondments manager (C. Silvestre, CNR) has informed that the secondments plan is implemented to 85% for the first project stage and she has underlined the importance of the secondments in the RISE project. The redistributed secondments between the project partners for the 2nd stage were discussed.



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5) The Dissemination manager (P. Lamberti, UniSa) has informed for the passed and forthcoming meetings within the Graphene 3D project. All planned meetings until month 29 were held and two more workshops are planned to the project end.

Marino Lavorgna and Clara Silvestre have informed that the organization of the Workshop in Capri is in force. They have proposed to send full budget plan and organizational details for covering expenses of 30 partners' participants using the workshop budget of 20 000 Euro.

Ricardo Andrade has invited the interested partners to participate in the forthcoming International Congress on Rheology, that will be held in Rio de Janeiro, Brazil.

Natia Jalagonia has presented the first ideas of SIPT partner for organization of the Final Workshop in Tbilisi, in 2020. The organization is planned in a luxury hotel with a quite high budget (above 20 000 EUR), covering expenses of only 10 project partners from the workshop budget.

In order to ensure more participants from the project partners in the Final Workshop, the Coordinator has proposed the Final workshop in Tbilisi to be organized in a more economical way, using the SIPT facilities for the meeting location and choosing standard hotels for participants. The workshop budget has to be used to cover hotel expenses for 30 participants (3 per each partner), coffee breaks, lunches and dinners during the 3 conference days, as well as some social events.

6) The Exploitation manager (E. Ivanov, NanoTechLab) has informed about the IPR issues and the options for patenting of innovative results.

M. Lavorgna, Ph. Lambin and R. Kotsilkova took part in the discussions. At this stage, most of the obtained results are published and there is not explicit interest of partners for patenting. However, Narrando is evaluating the patentability of results obtained by Gianluca Viscusi during his secondment at Sichuan University. Should be the case, a joint patent application will be prepared by Narrando and Sichuan.

<u>Decisions from the MB & MC meeting:</u>

- 1. An IPR contract has to be prepared which will protect the rights of participating partners in case of patenting during the project life and some years later. The exploitation manager has to prepare the draft of the IPR contract, to be discussed in the next MB meeting in Capri.
- 2. SIPT partner has to prepare soon a new plan for organization, flyer and program of the Final Workshop in Tbilisi' 2020. This will be discussed by e-mails between MB members. The final decision for the location and organization of the Final workshop will be taken in the next MB meeting in Capri.
- 3. The next MB meeting will be held during the Workshop in Capri, on 5 October 2019.

The MB meeting was closed with acknowledgements to the host, Dr. Patrizia Lamberti and the UniSa team