

Initiative of Graphene Commercialization in China

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In November 30 of 2015, the Ministry of Industry and Information Technology, the National Development and Reform Commission, and the Ministry of Science and Technology issued an official document: [Guidance on Graphene Industrial Innovation and Development] [1], to speed up graphene commercialization in China.

This document was based on the status of graphene industrialization in China, and was succeeded from the 12-5 plan stated in the documents of [Development Projects of the National Strategic New Industries in the 12-5 Plan] [2] and [Made in China 2025] [3] issued by the State Council, [12-5 Development Planning of New Materials Industries] [4] and [2015 Key Working Points of Transformation Development of Raw Materials Industries] [5] issued by the Ministry of Industry and Information Technology, and [Embodiment of Updating and Upgrading Projects of Key Materials Technology] [6] issued by the National Development and Reform Commission etc.

The key points of this guidance are summarized below :

1. Seize the opportunity of the rising period of graphene industrialization: The guidance indicates that it is the critical time for graphene technology moving up from R&D to industrialization.
2. Build graphene technology as the forerunner industry:
 - a. To 2018, the production chain of graphene manufacture, downstream R&D, and commercial products shall be built up.
 - b. To 2020, well established graphene manufacture and marketing system shall be completed. This includes about 10 strong competitive companies that can manufacture standardized graphene products with competitive prices, and 3 – 5 world leading innovation platforms.
3. Drive key technology innovation:
 - a. Solve problems in processing, ensure controllable product quality and processing stability.
 - b. Secure IP system.
 - c. Establish public service system including analytical laboratories and quality control platforms.
4. Promote exemplary of downstream applications:
 - a. Focus on energy storage devices, functional coatings, re-enforced rubber and tires, thermal management products, sensors, touching components, and electronic components etc.
 - b. From 2016 to 2018, build up 12 exemplary production lines for commercialization of graphene applications, i.e., 4 lines per year.
5. Develop green and recyclable processing, and ensure sustainable development.
6. Serve for the national key engineering projects and for continuous improvement of life quality.
7. Supporting systems include privilege policy made by the governments, oriented investment, standardization system, and other necessary supportive services.

Overall, it emphasizes the importance of international cooperation in graphene commercialization.

References

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