

# Abstract "The virtues and challenges of the PHA-platform"

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Roughly speaking it takes 20 years and one billion \$ or € (1) to develop a new polymer, (2) to get market acceptance from many customers, (3) to produce it at industrial scale and (4) to write black figures in the end. This is true for both fossil-based and bio-based polymers and has recently been demonstrated by PLA and now also by PEF and PHA-platform polymers, albeit that the last two don't write black figures yet.

Despite the fact that attempts to erect an industrial PHA-platform are being made for more than 25 years now there are still several matters to be demonstrated before one can consider this to be established. Nevertheless several appealing demonstrations of both durable and one-time-use applications have been made during the last couple of years, while there is more to be expected.

The total number of parties involved in development of this PHA-platform has continuously been growing during the last decade. In the meantime more than 40 parties around the world are very active in this area, albeit that many of them still focus mostly on the first step: "To make a PHA polymer from a waste stream". However, more activity is required to get market acceptance for the cost/performance of PHA polymers and for the industrial scale production of them, to establish this PHA-platform.

About 5-10 companies are currently building and/or expanding industrial PHA production capacity. Several of them announced start-up of these new capacities in 2018. That doesn't mean that they compete with each other, since the PHA-platform consists of many different PHA products that cannot easily be exchanged between them. After all, PHB is an entirely different animal than PHBH. To that effect one should stop using the phrase "PHA polymer" and be specific on which PHA polymer one talks about and help to teach the market what this new PHA-platform is about.

With this paper the author aims to review the current status and benefits of the platform, to address the challenges and opportunities and to present the objectives of the upcoming 1<sup>st</sup> PHA-platform World Congress later this year.

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