

# Editorial

## Technique Pattern : The Role of Nature

Leonardo da Vinci made it long before: the artist and the inventor from Toskan observed the nature exactly and transmitted its construction plans, power and phenomenon on the technical development. So he discovered the approximate principle of climbing mechanism, nevertheless the driving machines, helicopter and flying machines. Several centuries later the concept Bionik was coined out of that. The engineers and researchers long ago accomplished the biological transformation and use the wealth of nature for technical solution. An uptodate project of german Academy of Technical Science (Acatech) illustrate with promotion through the Federal Research Ministry (BMBP) the innovation potential biologically inspired materials for the application in chemistry, energy, medicines and robotic as also art and design. Such raw materials can thus impress the german research and technology position in the succeeding years.

The internationally very good position of Germany in this area is to be an operation in order to transform this in industrial production, it calls in the Acatech paper. To that it requires arrangement of digitization, automation and newer production processes like 3-D printing; also interdisciplinary overlapping arrangements in totality – prompts Dieter Spath, one of the Presidents.

However how does the enormous wealth of ideas of nature get used? A butterfly shows how

it is done. On the wings of usual arose there are tubular nanostructures, which absorb the sunlight extremely good. Researchers of Karlsruhe Institute of Technology (KIT) have coined such very small tubelets now on a solar cell, so their observing rate being vertical lightfall around 97% against one unstructured cell can increase.

The research factory Microelectronic in Berlin chose another arrangement.

There the scientists orient themselves as the building of human brains in order to develop so-called neuromorphic computer chips. These should really work quicker and are energy efficient than the previous chips and so also be suitable for application in the domain of artificial intelligence (KI).

A complete series of interesting technologies already set in the starting pits in order to capture the markets in the coming years. The automatic travel belongs to that cloud arrangements the setting up the newest mobile radio generation, new ways to energy generation and storage as also the bioprinting with which the urgently required organs are to be printed in laboratory. Although KI already for automatic production of scientific texts is set up, it is always human beings who have written these edition of VDI nachrichten.

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