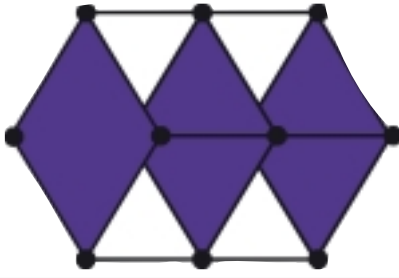


# Bavarian research & innovation



Format – Bavarian Research Cooperation Materials Sciences

## NEW AND TRADITIONAL MATERIALS

**M**aterials research and technology are the cornerstones of commercial development. The use of new materials opens up considerable potential for new products, while simultaneously conserving resources and protecting the environment. Improving the properties of traditional materials, however, also provides opportunities for innovation. Only those who remain at the forefront of the development of new materials or the improvement of existing materials stand any chance in the face of global competition.

### Innovation through information

Small and medium-sized companies who cannot afford their own development laboratories should be able to profit immediately from the latest discoveries of materials researchers. FORMAT (Bayerischer Forschungsverbund Materialwissenschaften) brings companies together with experts in research institutes by:

- the provision of online information on all matters of materials technology
- the organisation of specialist events covering materials topics
- sponsoring materials science research projects
- consultation on all questions relating to materials
- establishing contacts between institutions of higher education and industry.



**Solar cells and an ultra-light aerofoil construction using composite fibre materials allow the Helios solar aeroplane to fly at a height of 23 km. (Photo: NASA)**

**Materials science online:**  
<http://www.format.mwn.de>  
FORMAT's most powerful tool is online information provision, transferring the latest knowledge rapidly to the outside world. At the above address, the user will find references to the literature on materials, an event calendar covering important materials events, information on FORMAT's activities and a large number of links relevant to materials. The key focus of the entire web presence, however, is M-Line pro, an online database for researching materials and materials knowledge. M-Line pro provides information about

materials, research institutes, test and investigation methods, processing methods and about materials manufacturers. The plan is to

include data on materials from all the metal groups and for ceramics, polymers, composites and natural materials.

### Spokesperson and Managing Director:

Prof. Dr.-Ing. Karlheinz G. Schmitt-Thomas, TU Munich

### Public Relations

Dr. Günther Weiss  
FORMAT

Arcisstr. 21, 80333 Munich, Germany  
Phone +49 (0) 89 2 89-2 54 81 (Office)  
Fax +49 (0) 89 2 89-2 25 33  
E-Mail [format@format.mwn.de](mailto:format@format.mwn.de)  
Internet [www.abayfor.de/format](http://www.abayfor.de/format)

Funded by the Bavarian State Ministry of Science, Research and Art.



**M-Line pro materials search – the key to the right material**

Five search menus, from full text to key value searching, provide access to the materials data. The user can start by searching for materials which have specific qualities within specified materials groups using a ready-made requirements profile. The user selects the desired materials group, and assigns "low", "medium" and "high" weightings to the properties. If, for example, iron is the basic material, these properties are: strength, hardness, toughness, high-temperature limit of elasticity and creep strength. Not every property need be given a weighting, just those necessary for the particular problem.

The results of the search are always displayed in the form of a table of materials together with the specified conditions. The data relating to the individual materials can be examined by clicking on them.

**M-Line pro skill search – the signpost to expert knowledge**

This search is an extension of the materials search, and locates institutions, research

projects, manufacturing and test processes relevant to the materials. Direct links to the associated web sites are a convenient additional service.

**Consultation and support**

FORMAT organises lecture and discussion days on current materials topics. FORMAT's staff are available to provide advice on questions related to materials, and can provide names of contact persons or set up contacts with research and development institutes. FORMAT is sponsoring the

"Electron Treatment of Materials" project that is being financed by the Free State of Bavaria using resources allocated for the High-Tech Offensive. With FORMAT's support, eight Bavarian universities and engineering colleges are carrying out their research using one of the most powerful electron accelerators in the world at Saal an der Donau. The advantages of electron irradiation, in particular for cross-linking plastics, are being researched.



**The electron accelerator at Saal an der Donau provides more than 10 MeV acceleration energy, and a beam power of 150 MW.**