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CHEMISTRY OUGHT TO BE NOT  
ONLY CHEMISTRY

- MIGUEL DE UNAMUNO -

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polymer  
chemistry



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## Era of polymer chemistry – cellulose-based fibre

Natural fibre couldn't supply the demand anymore. Via the viscose fibre, made of cellulose (raw material wood), a new age dawned for the textile industry.

**1899** H. Jordan founds "Vereinigten Glanzstoff-Fabriken AG" in short VGF (united shimmering fabric production plants Corp.) in Aachen

**1911** the VGF acquired the patent for viscose  
**1921** Foundation of the research and patent headquarters of the VGF Corp. in Teltow-Seehof



### Research goals:

usage of the cellulose (wood) as resource for the production of viscose silk, process testing and aggregate design for the cellulose and viscose production process, starting research concerning synthetic fibre made of polyamide

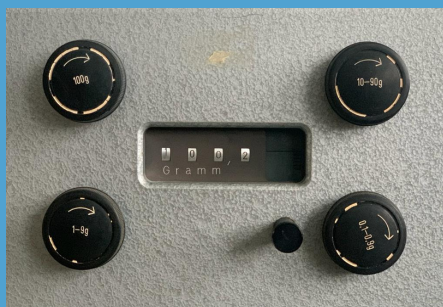
## Era of polymer chemistry – textile fibre

Progress was made in the polymer research of the synthetic fibres (e.g. nylon) with the attributes for a broad scope of application. The world's demand for fibre couldn't be provided without synthetic fibres.

**1935** W.H. Carothers (du Pont) had the synthetic fibre nylon patented

**1938** Paul Schlack had the synthetic fibre perlon patented, the German alternative for nylon

**1949-1972** "Institut für Faser-Forschung" (IFF) (institute for fibre research) in Teltow-Seehof, former research centre of the shimmering fabric production plants



### Research goals of the IFF:

Continuous optimisation of the fabric production made of cellulose (tyre cord), made of polyamides (Dederon), made of polyesters (Grisuten), and made of polyacrylonitrile (Wolpryla) as well as solvent polymerisation, wet-spinning-process, the analytics of the physical structure exploration and the textile testing.

## Era of polymer chemistry – new products

Today innovative polymeric materials are also used in the medical sector, the micro- and nanotechnology sectors, the optic industry, the traffic engineering and the aerospace technology.



**1972-1991** "Institut für Polymerenchemie" (IPOC) Institute for Polymer Chemistry, research towards special fabrics,

segregation materials, membranes, polyelectrolyte, dispersion, protein nourishments, colloidal chemic topics and physical structure analysis

**1983** start of the production of hollow fibre membrane for the artificial kidney

**1985** wonder powder "Dehisan"

**2012** research plants like GKSS, BIOPOS, and IDM etc. represent the research site Teltow-Seehof

### Teltow-Seehof – A "high-tech" research site

By the hollow fibre membrane research (artificial kidney) a new chapter of the polymer research was opened at the research site Teltow-Seehof. The interdisciplinary cooperation with the fields of medicine, biosciences and electronics was trend-setting for the maintaining of the site.