



# ZIM Success Story

## *Ideal Conditions for Medicinal Cannabis*



*The international ZIM innovation network Cannabis-Net develops technologies, methods and end products to unlock the potential of medicinal cannabis along its entire value chain. Special focus is placed on ensuring the highest standard of raw materials and quality of cannabis-based medicines and cosmetics.*

Due to the decades-long prohibition of cannabis cultivation in Germany, its medicinal potential remained unexplored for a long time. However, since the legalization of cannabis for medicinal use in 2017, demand has been steadily increasing. The goal of the *Cannabis-Net* partners is to advance Germany's legal cannabis market by creating technological innovations and processes for cultivation, drying, harvesting, extraction and analysis, including new pharmaceutical products, thereby bolstering economic growth. The involvement of Canada, the leading country in the field of medicinal cannabis, ensures a high level of innovation and expertise within the network.

### Products and Innovations

Besides the development of cultivation methods, cannabis-specific cultivation substrates, sensor technologies for monitoring plant growth and heat pump-based drying technologies, the network also advances medicinal products. One of the innovation network's results is a novel gel targeting rosacea. Around three million people in Germany are affected by this skin disease, which is characterized by redness and inflammatory skin changes. To date, no active ingredient has been found that would permanently reduce or heal rosacea. Cannabinoids and terpenes found in cannabis can counteract the inflammatory reactions of rosacea thanks to

their powerful anti-inflammatory, antimicrobial and analgesic effects.

Chronic pain is the focus of another network project: According to research by network partner Apurano Pharmaceuticals, 78% of Germans suffering from chronic pain are dissatisfied with their current treatment. In the project, Apurano used its patented PuranoTec process to develop the active ingredient formulation Adezunap for a future finished drug targeting chronic pain. The University of Hohenheim contributed CBD-rich cannabis genetics and an indoor cultivation system. Apurano is conducting the largest clinical DISCOVER study on chronic pain to date with Adezunap in more than 2,000 patients.

**Information on the project****Duration:** 04/19 – 11/24**Project form:** Innovation network**Field of Technology:** Plants**Contact****CANNABIS-NET**

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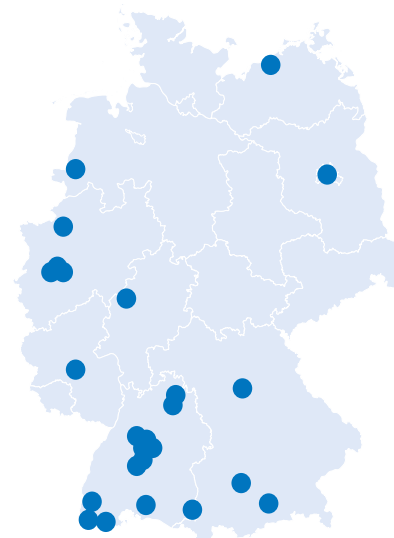
**German Partners**

- AGON Pharma GmbH, Wendlingen a.N.
- Apurano Pharmaceuticals GmbH, Warngau
- B+H Solutions GmbH, Remshalden
- Becanex GmbH, Berlin
- Beste Natur GmbH, Stuttgart
- Bex-Biotec GmbH & Co.KG, Coesfeld
- BioTeSys GmbH, Esslingen
- Canify AG, Herrsching
- Computomics GmbH, Tübingen
- DEMECAN Holding GmbH, Ebersbach
- EcoTube Germany GmbH, Kessin
- Floreco – Schönges GbR, Korschenbroich
- Fritsch GmbH, Idar-Oberstein
- Glatt GmbH, Binzen
- GMP-Verlag Peither AG, Schopfheim
- Harter GmbH, Leutkirch im Allgäu
- Humintech GmbH, Grevenbroich
- Klasmann-Deilmann GmbH, Geeste
- Klemm + Sohn GmbH & Co. KG, Stuttgart
- KNAUER Wissenschaftliche Geräte GmbH, Berlin
- MLS Solutions GmbH, Leutkirch
- Pharmbiocon GmbH, Bad Endbach
- Pure Europe GmbH, Bad Säckingen
- Retsch GmbH, Haan
- ruck Ventilatoren GmbH, Boxberg
- ScreenSYS GmbH, Freiburg
- STEP Systems GmbH, Nürnberg
- Symaplant GmbH, Flintbek
- Universität Hohenheim, Stuttgart
- Universitätsklinikum Freiburg, Freiburg
- Zürn Harvesting GmbH & Co. KG, Schöntal-Westernhausen

**Canadian Partners**

- 3 Rivers Biotech Ltd., Coquitlam (British Columbia)
- Aqualitas Inc., Bedford (Nova Scotia)
- Bold Growth Inc., Saskatoon (Saskatchewan)
- Breathing Green Solutions, Wentworth (Nova Scotia)
- Céréla, Saint-Hugues (Québec)
- Flow Scientific, Surrey (British Columbia)
- Keirton Inc., Surrey (British Columbia)
- Nanalysis Corp, Calgary (Alberta)
- Nextleaf Solutions, Ltd., Coquitlam (British Columbia)
- NRC-IRAP, Ottawa (Ontario)
- Nutrasource, Guelph (Ontario)
- Organigram, Moncton (New Brunswick)
- Protonify Corporation, Nanoose Bay (British Columbia)

- Purileaf, Niagara Falls (Ontario)
- Segra International Corporation, New Westminster (British Columbia)
- Upscale Ag, Cornwall (Ontario)
- Willow Biosciences Inc., Calgary (Alberta)

**Market and Customers**

Global medicinal cannabis market size was estimated to be worth approximately \$13.8 billion in 2022 and is projected to grow at an annual rate of approximately 14 % from 2024 to 2028. This growth is also driven by increasing awareness of the many therapeutic applications of cannabis. The network's partners aim to market the products globally.

**The Network**

The ZIM innovation network *Cannabis-Net* currently comprises 31 German and 17 Canadian partners covering complementary technological fields along the entire value chain of medicinal cannabis. The network is managed on the German side by the University of Hohenheim and

on the Canadian side by NRC-IRAP, an innovation agency of the Canadian government. The technologies developed have resulted in significant benefits for the companies involved and collaborations have been expanded both nationally and internationally.



Rosacea Nano-Gel in the dispenser (left); test preparation with the active ingredient Adezunap AP707 from Apurano Pharmaceuticals in the DISCOVER study on chronic pain (right).

**Information on the funding program**

The Central Innovation Program for SMEs (ZIM) of the Federal Ministry for Economic Affairs and Climate Protection (BMWK) provides funding across all technologies and sectors:

- Individual projects
- Cooperation projects
- innovation networks as well as feasibility studies.

**Information and Consulting for networks**

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