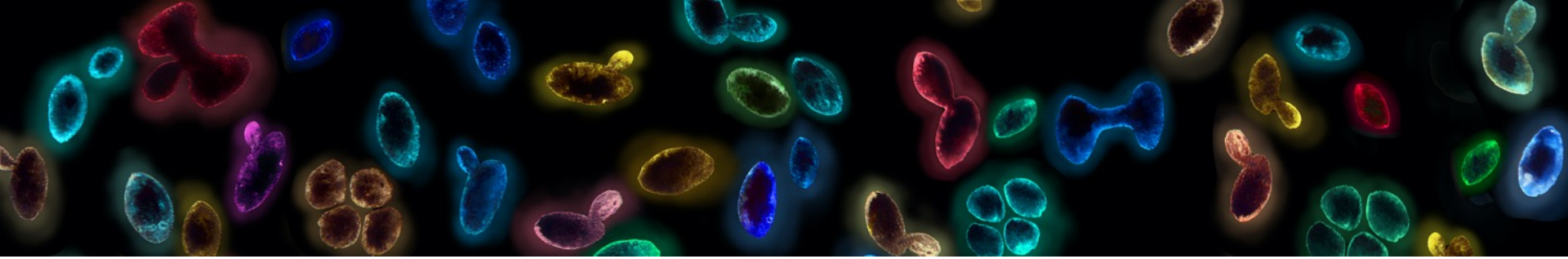
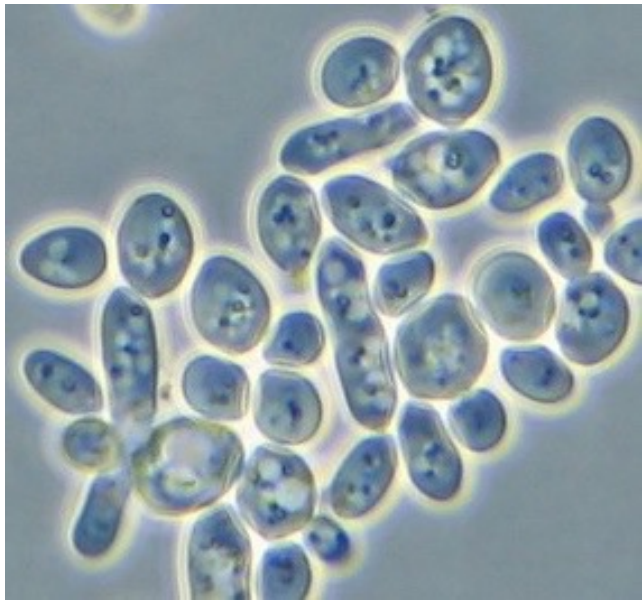


NovelYeast bv

Superior yeast as a target and a tool

NovelYeast



Problems addressed

NovelYeast

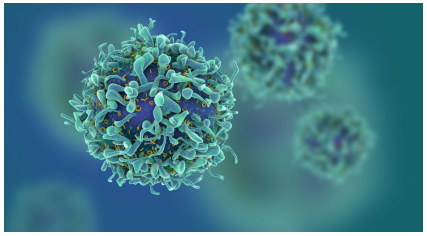
Superior industrial yeast strains

Cell factory yeasts

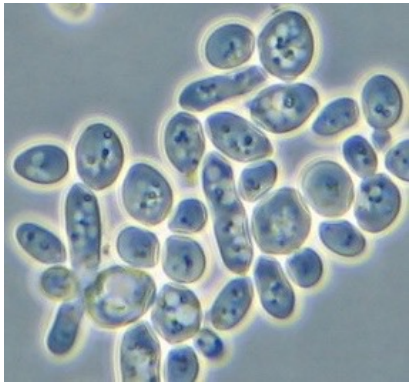
Cross-fertilization between applications

Sustainable biofuels

Sustainable bio-based chemicals



Cancer drugs



Yeast

Obesity, diabetes, life style low-calorie sugars, proteins

Intestinal diseases probiotics

Beer brewing brewers' yeast

Wine production wine yeast

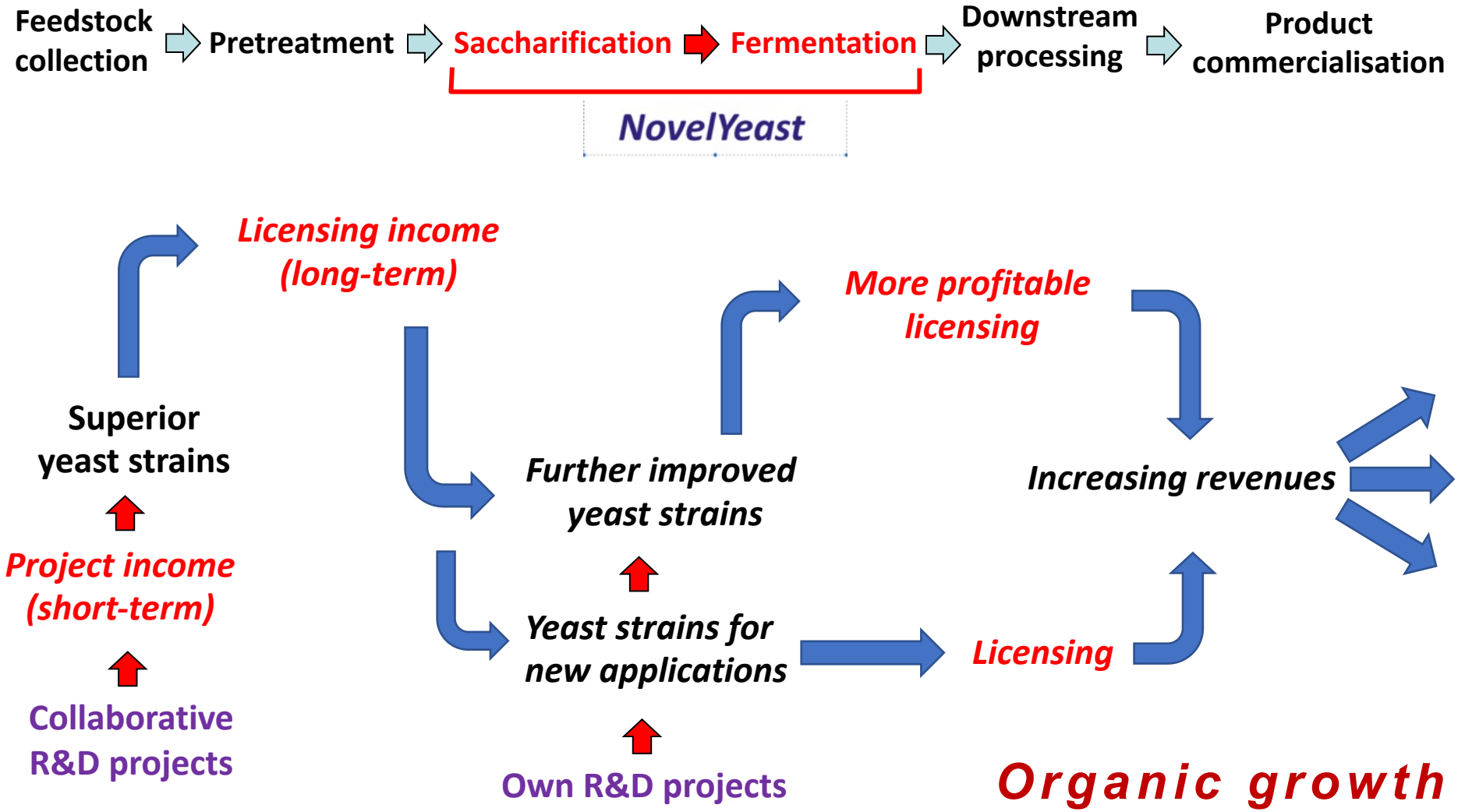
Baking bakers' yeast

Scientific roadmap & Go-to-market

Main ongoing R&D projects → short-term licensing income (in 2-3 y)

- Development of yeasts for production of erythritol, allulose, tagatose, isomaltulose and brazzein → low-calorie sweeteners in human food
- Development of superior *Saccharomyces boulardii* yeast → probiotic in animal feed and human food
- Development of second-generation yeast for production of ethanol with lignocellulosic biomass → biofuel, bio-based chemical for bioplastic, other applications
- Development of second-generation yeast for production of isobutanol with lignocellulosic biomass → sustainable aviation fuel
- Development of yeasts for production of ethanol with sugar cane juice/molasses in Brazilian refineries (higher yield and reliability of fermentation) → biofuel, alcoholic drinks, other applications

Position in value chain
Business model



Team

- Dr. Johan Thevelein
  Prof. Em. KU Leuven, Molecular Cell Biology
  Former Dept. Director/Group leader VIB, Molecular Microbiology
  ± 40 years experience in basic and applied research on yeast, 125 research projects of which 15 EU projects and 20 projects with companies worldwide, CSO GlobalYeast NV/SA

- Personnel
  - Dr. Arne Claes, 8 years experience in yeast research
  - Dr. Bruna T. Carvalho (20%), 9 years experience in yeast research and industrial experience
  - Dr. Mekonnen Demeke, 14 years experience in yeast research and industrial experience
  - Saju Varghese, 11 years experience in yeast research and industrial experience
  - Dr. Ana Subotic, 10 years of experience in yeast research and industrial experience
  - Caroline Thevelein (30%), management and administrative assistant

IP Portfolio

- **Granted patents**
  - Mutant yeast strain with decreased glycerol production (GB 1217028.8., 25 Sept. 2012). Granted in USA, Australia, Canada
  - Causative genes conferring acetic acid tolerance in yeast (EP 14194443.9., 24 Nov 2014. Granted in USA
  - Mutant NNK1 allele and its use. (EP 13197206.9., 13 Dec. 2013). Granted in USA, EP.
- **Patent applications**
  - Novel glucose uptake inhibitors for use in the treatment of cancer. EP 21168650.6., 15/04/2021
  - Beta2-adrenergic receptor antagonists for use in treating diabetes or obesity. EP 21206861.3, 08/11/2021
- **Patent applications through VIB and licensing income for NovelYeast**
  - Means and methods to modulate probiotic potency of the yeast *Saccharomyces boulardii*. EP 17191252.0., 15 Sept. 2017
  - Improved probiotic potency of the yeast *Saccharomyces boulardii*. EP 22153700.4., 27 Jan. 2022
- **Trademarks**
  - NovelYeast®, Warbicin®

Outlook for several new patent applications (financing may be limiting factor)

Unique selling points

- World-leading technical expertise in industrial yeast strain development
- World-leading pioneering innovativity in basic and applied yeast research: persistent problem-solving approach
- Extensive world-wide network with companies active in a large variety of applications with yeast
- Small-scale, highly cost-competitive projects and services
- Complete focus on yeast fermentation and closely associated processes ←→ competitors

Specific unique selling materials currently available

- Proprietary and unique enzyme-secreting 2G industrial yeast strain with superior performance compared to all competitor strains
- Proprietary and unique probiotic yeast strains with superior antibacterial potency in collaboration with VIB
- Proprietary and unique Warbicin® anti-cancer drugs targeting the Warburg effect of cancer cells

Financing requirements

Essential financing requirement

- **Purpose:** move from Open-Bioincubator (EHB, Jette) to the bio-incubator in Leuven-Heverlee (full-time access, possibility for VLAIO subsidies, excellent connection) + IP financing
- **Budget:**
  - Equipment: 150.000 €
  - Rental + installation cost bio-incubator (1 year): 50.000 €
  - Maintenance of existing IP and submission of new IP: 50.000 €
- **Total: 250.000 €**
- **Preferred format:** convertible loan or similar

Optional financing requirement

- **Purpose:** expansion of R&D activities
- Personnel costs for 4 post-docs + 1 technician (3 years): 750.000 €
- Consumables and overhead costs (3 years): 250.000 €
- **Total: 1.000.000 €**
- **Preferred format:** convertible loan or similar


NovelYeast