

LyoTech AB

Probiotics Projects



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Company presentation for Probiotics projects

Probiotics expert consultant: Åsa Bergenholtz, Pharm. Dr.

We offer :

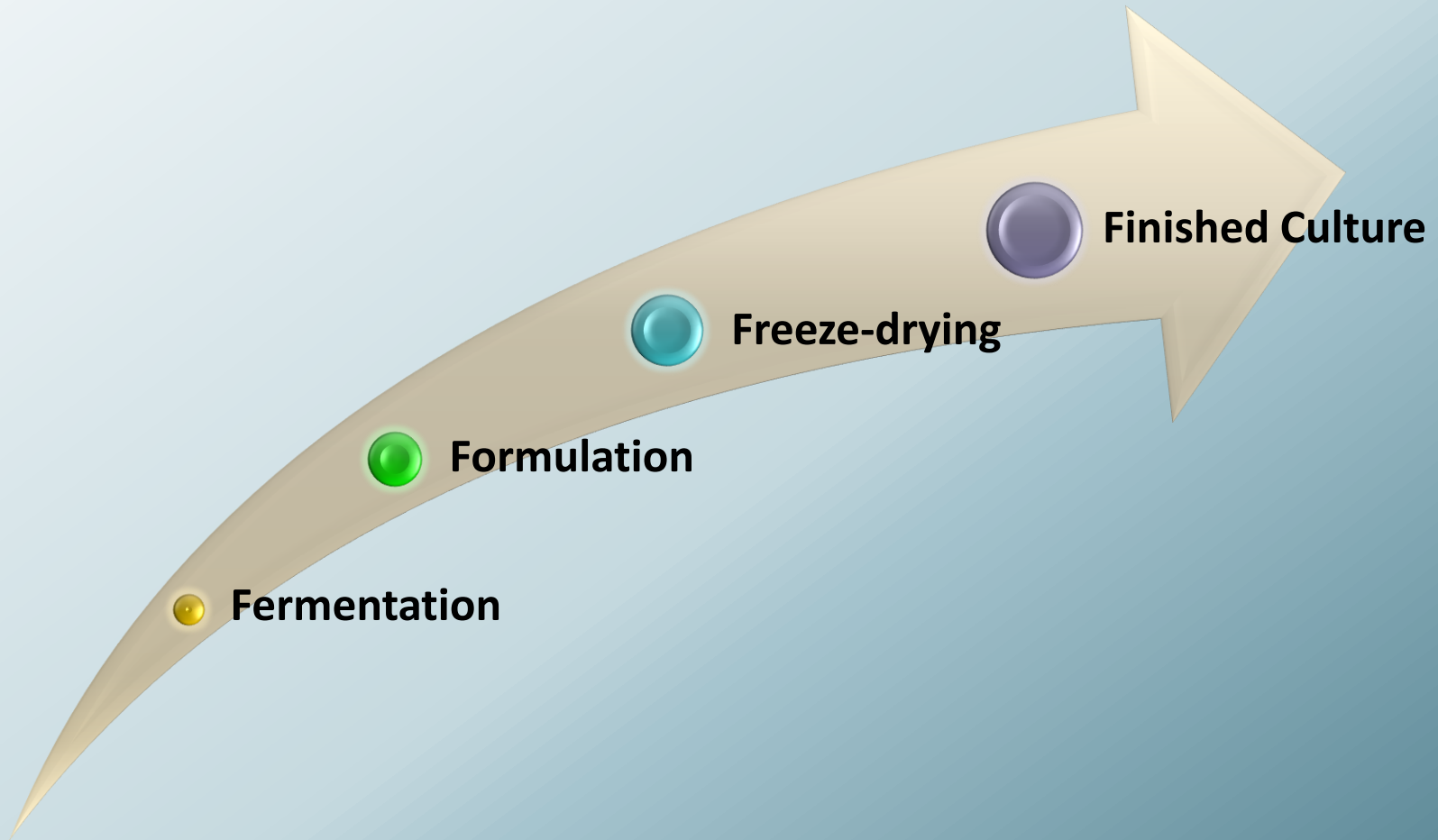
- ✓ Experienced project leadership
- ✓ Lyo-product development by “Best Practice” rationale
- ✓ Advanced troubleshooting
- ✓ Optimizing cell survival and stability
- ✓ Optimizing the formulation and process
- ✓ Quality by Design – experimental design
...and much more

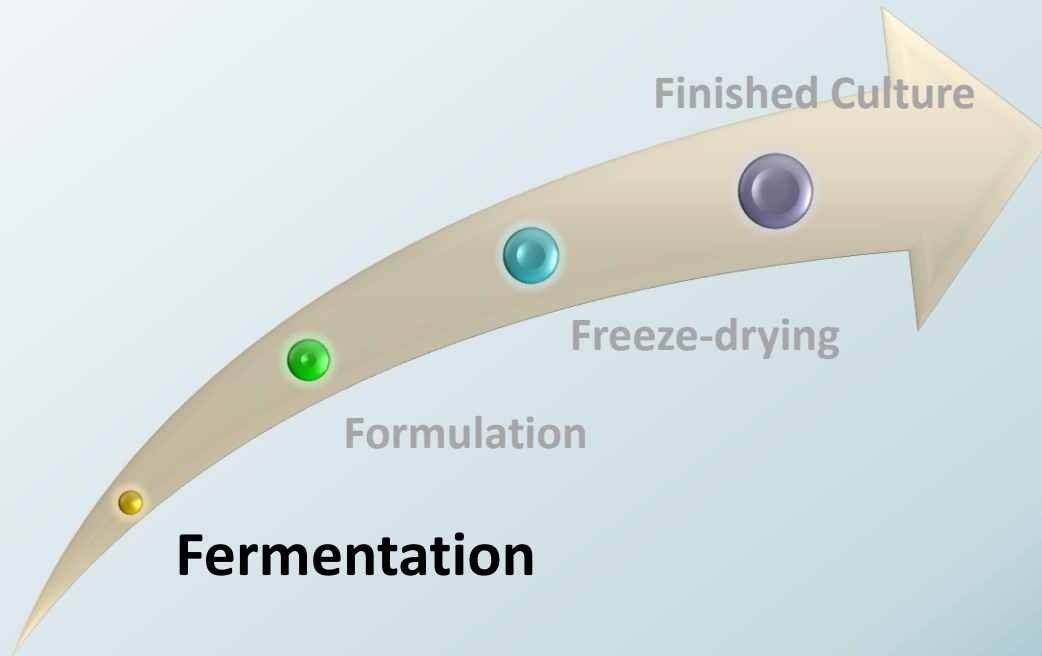
Visit: www.lyotech.se



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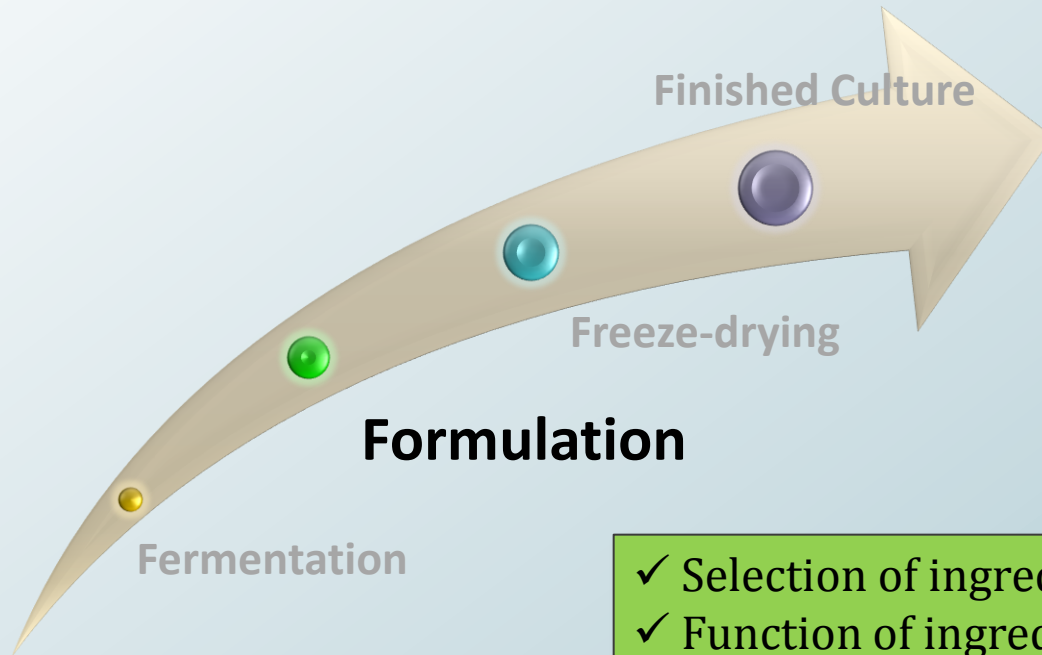
We are specialized on the entire process!





Fermentation

- ✓ Influence on freeze-drying survival
- ✓ Preconditioning (stress) effects
- ✓ Harvesting time to maximize survival after drying
- ✓ Handling prior to formulation, ex. concentrations
- ✓ Impact of long hold times. transportation between facilities



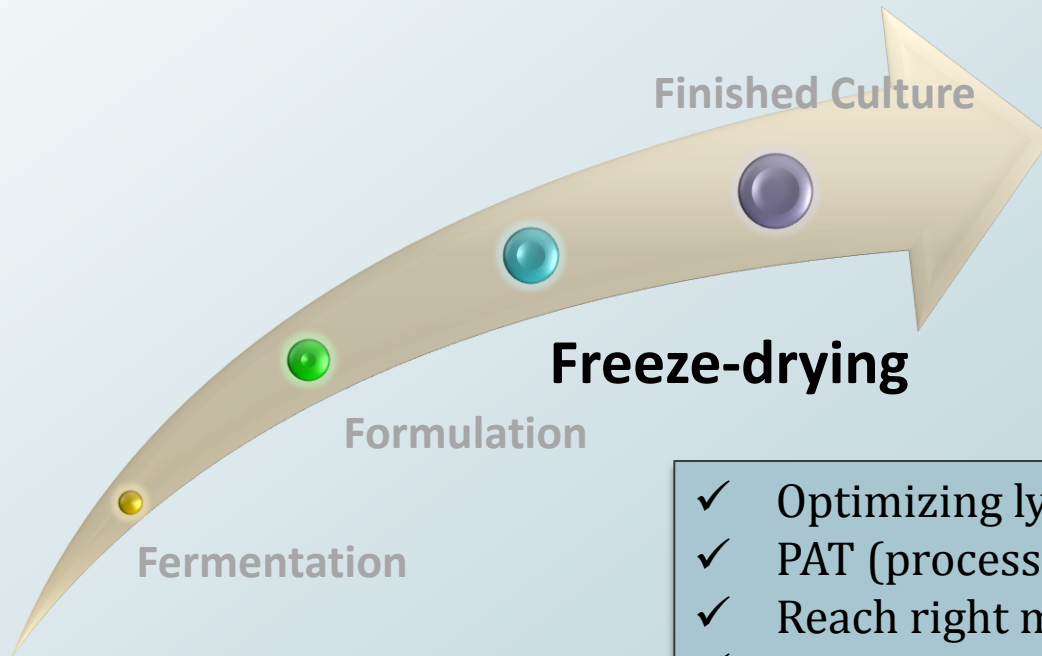
Fermentation

Formulation

Freeze-drying

Finished Culture

- ✓ Selection of ingredients and concentration
- ✓ Function of ingredients
- ✓ Solid content, cell density
- ✓ Solvent and solute behavior
- ✓ Critical temperatures, and the use of them
- ✓ Impact of selection of ingredients on product characteristics
- ✓ Impact of lyo-cycle and process economy
- ✓ Optimizing for cell survival



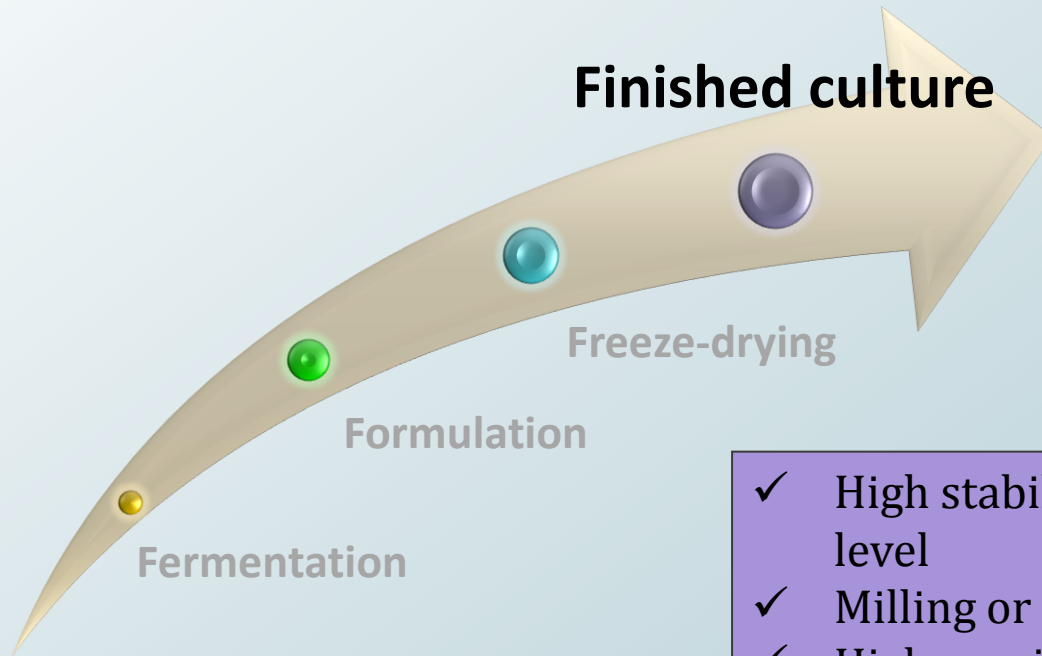
Fermentation

Formulation

Freeze-drying

Finished Culture

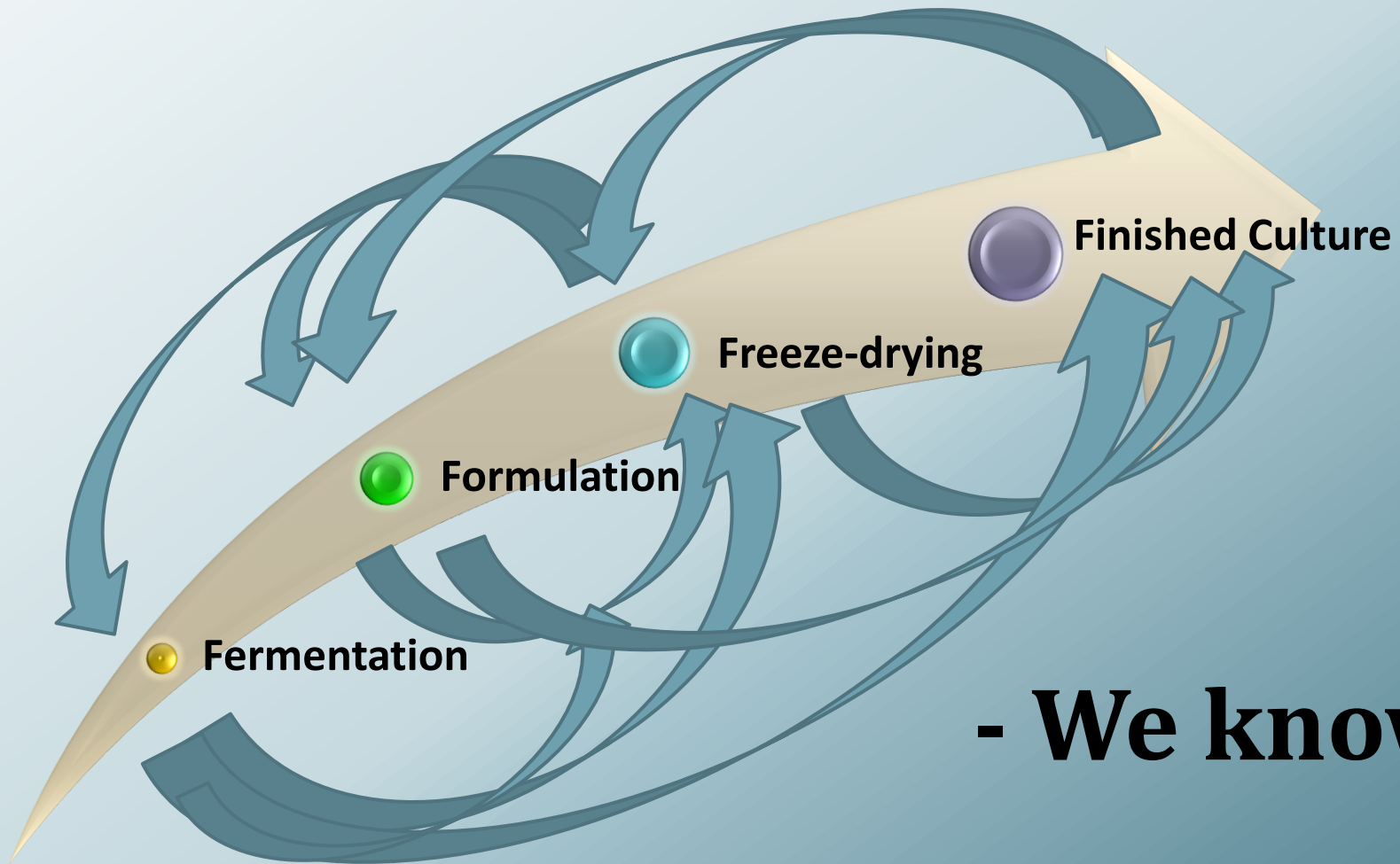
- ✓ Optimizing lyo-cycle, better economy!
- ✓ PAT (process analytical technology)
- ✓ Reach right moisture level
- ✓ Form right product characteristics
- ✓ Dry to maintain high quality
- ✓ Control according to selected critical temperatures (T_{coll} or T_g)
- ✓ QbD (Quality by design) approach
- ✓ Robust and optimized



- ✓ High stability and right moisture level
- ✓ Milling or other after treatment
- ✓ High survival and right CFU/g
- ✓ Pre-determined technical quality
- ✓ Design stability trials by knowledge on product characteristics, can we extrapolate?
- ✓ Characterize the product
- ✓ ...continuous product processing? (tablets, drops, other?)



What affects what? and how?



- We know!



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<http://www.lyotech.se/>

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All quotations are free of charge!