

Chr. Hansen A/S

Continuous improvement in microbial
development for biotic and abiotic stresses

Kim Müller Christensen, Head of Plant Health

ABIM Conference 2019



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Improving food & health

A global bioscience company



140 years of experience
Founded in 1874
in Copenhagen by
Danish pharmacist
Christian D.A. Hansen



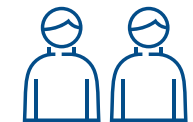
**Leading microbial
producer**
Producing more than
400 different bacterial
strains each year



Exceptional results
Revenue in excess
of 1 billion EUR
and 40% growth in
the last five years



Working together
Experienced in
collaborating with
customers for over
twenty years



Global expertise
3,050 employees
including over
200 PhD's

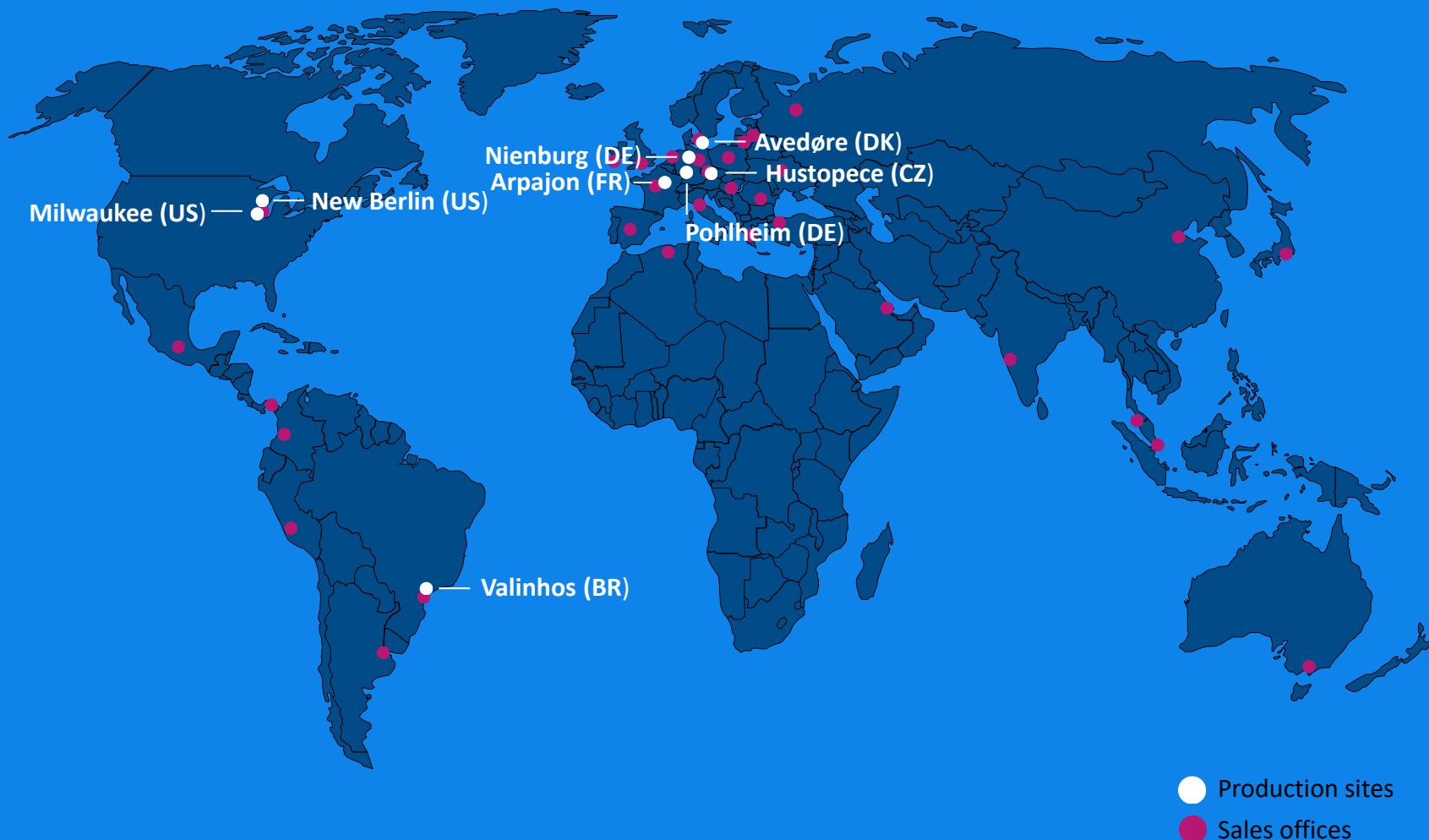


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Improving food & health

International production and global reach





The world's most sustainable company!



NASDAQ CONGRATULATES
CHR. HANSEN
AS #1 MOST SUSTAINABLE
COMPANY IN THE WORLD

CHR HANSEN

Improving food & health
Corporate Knights 2019 Global Top 100

 **Nasdaq**





FORTUNE
CHANGE
THE
WORLD
2019



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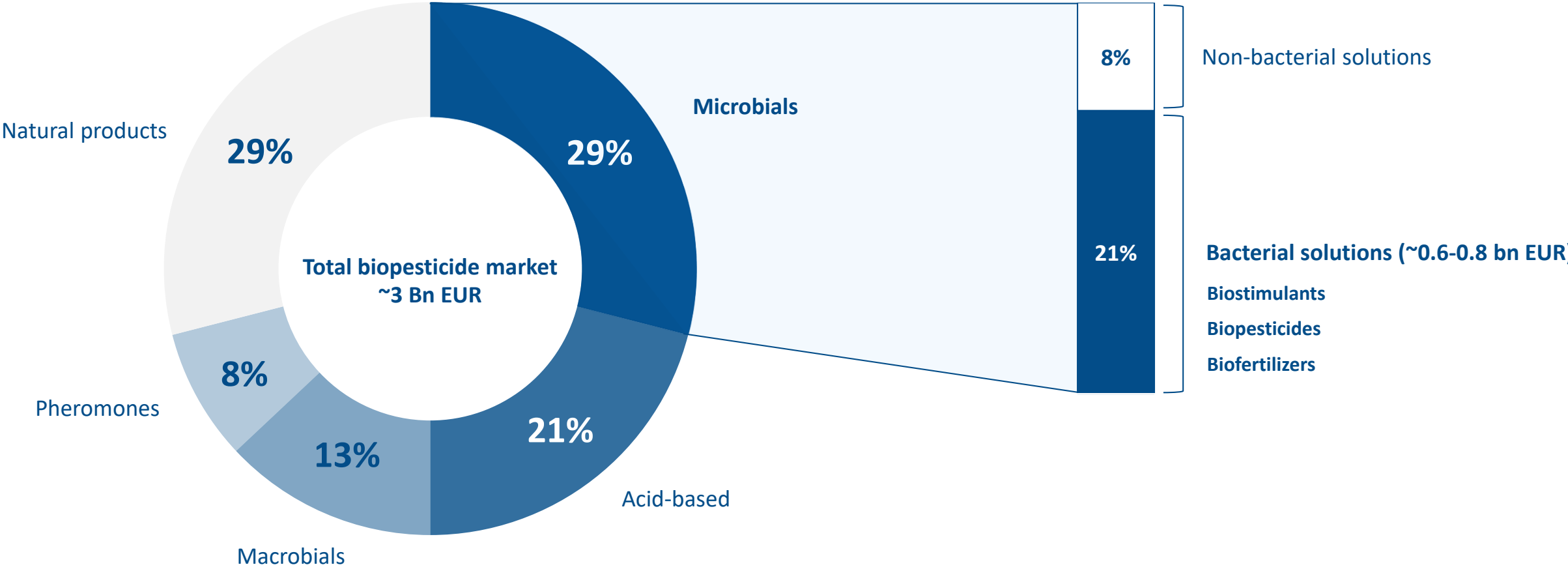
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Everyday more than 1 billion people worldwide consume a product containing Chr. Hansen ingredients

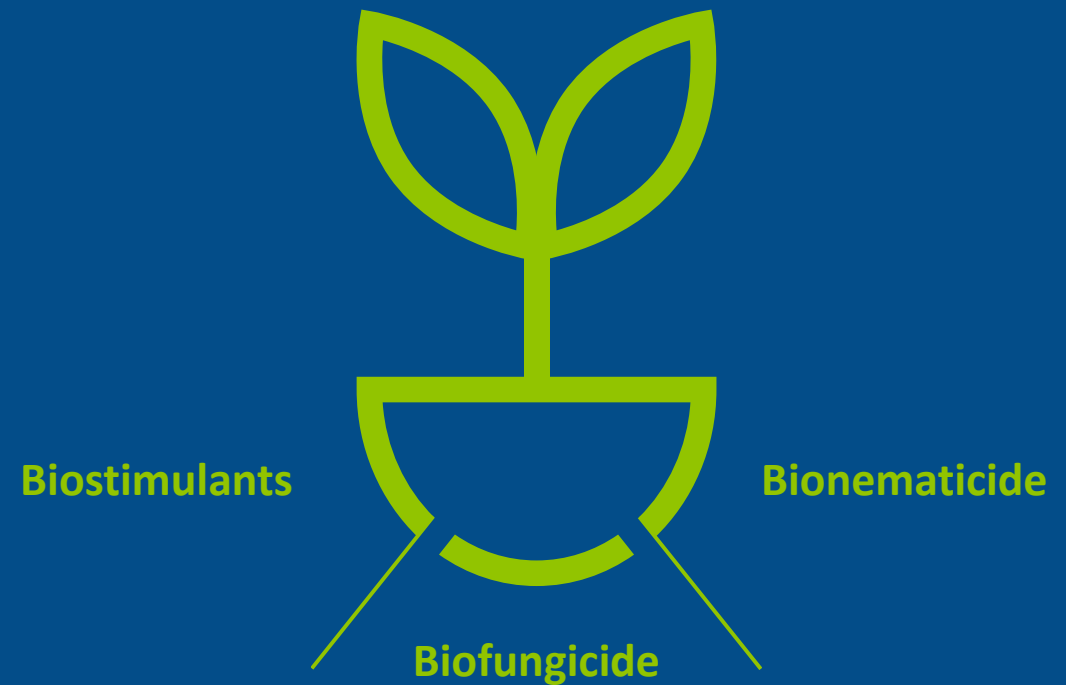


The biological categories

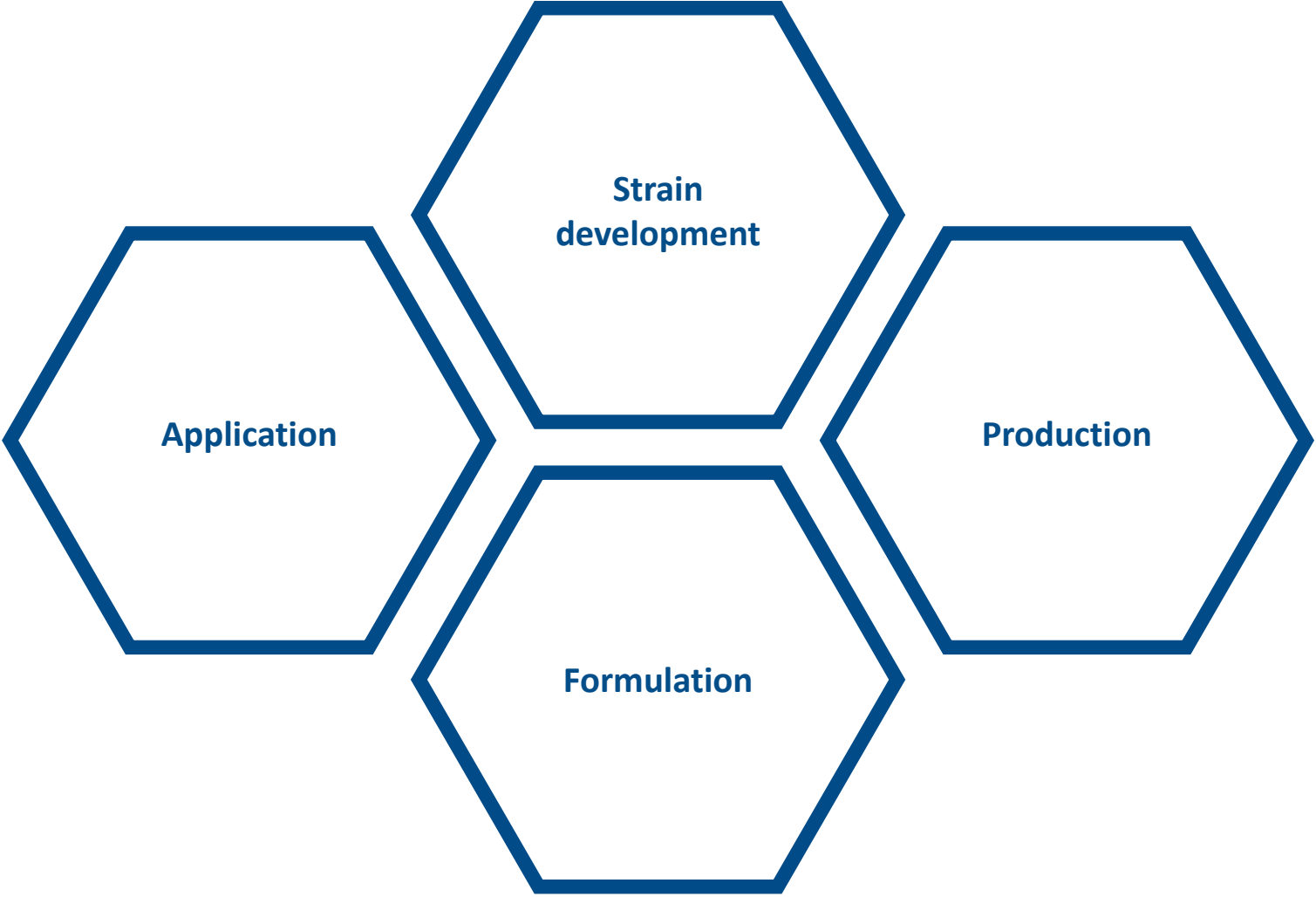


Plant Health delivers proven natural solutions to the rapidly growing bio-ag market

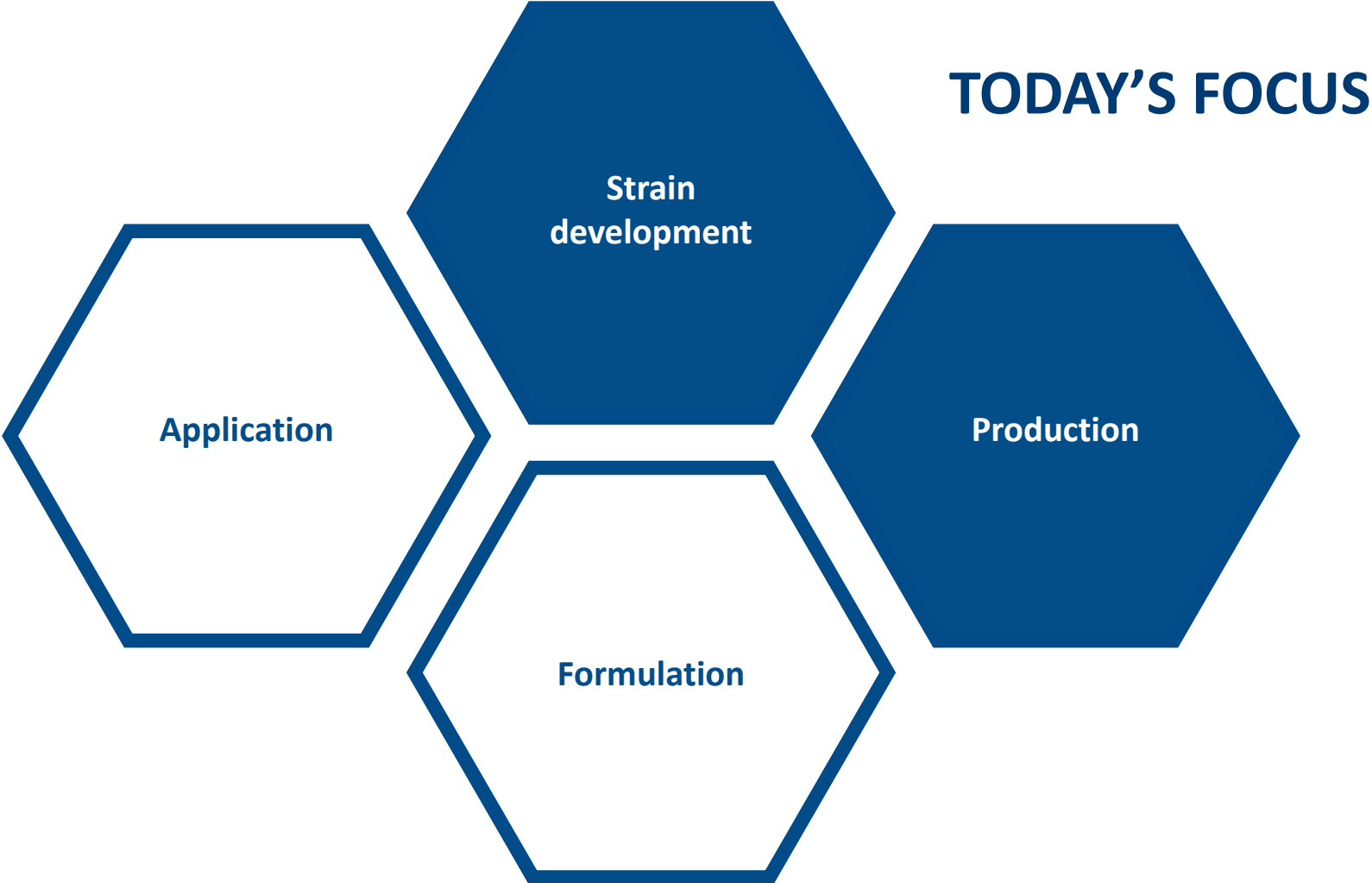
- Through collaboration with key partners
- Our strains are carefully selected
- We utilize the bacillus bacteria



Continuous improvement of biologicals for biotic and abiotic stresses centers on four pillars



We examine two of them





Strain development

What is strain development?

Why do we improve strains?

How do we improve strains?





**Production of of
active ingredients**

Why is production important?

How can production be improved?



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Why is production important?

Understanding production and the effect on the final application is critical to ensure

- Uniform products
- Consistent performance in the field
- High stability



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How is production optimized?

To optimize the production, the first step is to understand the product

- MoA understanding is critical to understand optimization of production
- Optimization is carried out holistically and not in unit operations
- Quality parameters need to be clearly defined





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Learn more at www.chr-hansen.com