



New Solutions for Sea Lice Control

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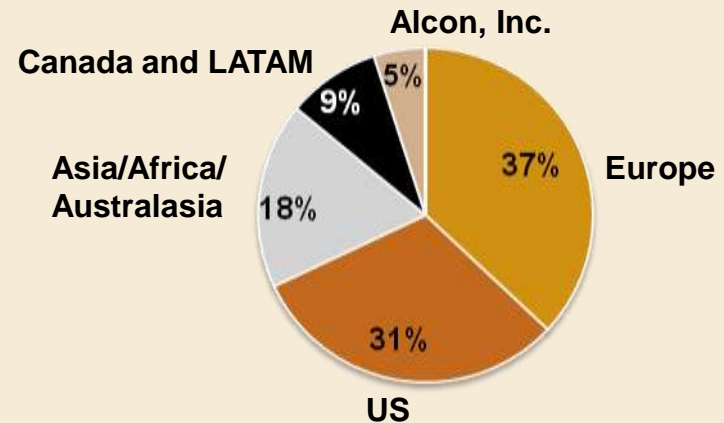
Novartis is a world-leading healthcare company

- Leading market position
- One of 20 largest companies by market capitalization
- Among most respected companies globally

Key figures

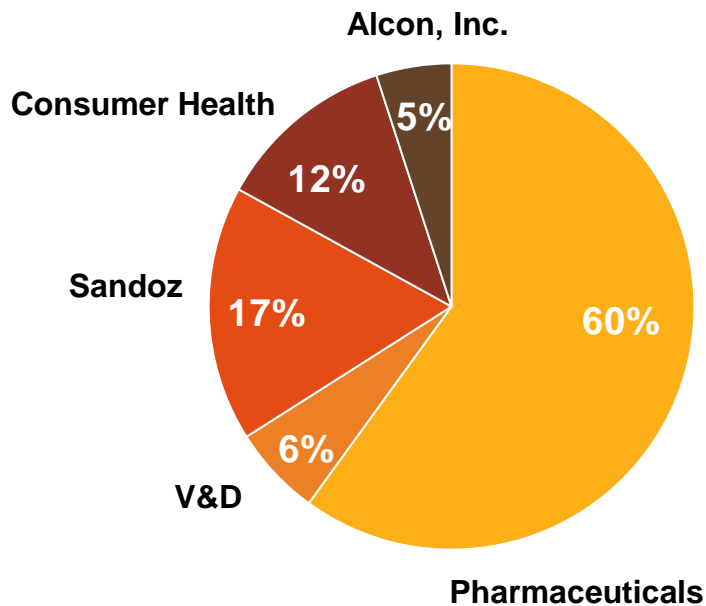
<u>2010</u>	<u>USD billion</u>
Net sales:	50.6
Net income:	10.0
R&D investment:	8.1

Sales by region – 2010



We have a broad healthcare portfolio

2010 net sales by division



Pharmaceuticals	Innovative patent-protected medicines
Vaccines and Diagnostics	Vaccines and diagnostic tools to protect against life-threatening diseases
Sandoz	Affordable, high-quality generic medicines and biosimilars
Consumer Health	Strong, trustworthy brands for knowledgeable consumers <i>OTC (Over-the-Counter)</i> <i>Animal Health</i>
Alcon	Surgical, pharmaceuticals and consumer eye care

Novartis Animal Health at a Glance

Key Facts

2010 USD billion

Net sales: 1.208

Sales growth vs. 2009
in constant currencies: +7.5 %

R&D Investment
in % of Sales: 10.1 %

Company overview

Employees: Approx. 2 700

Headquarters: Basel,
Switzerland

- Novartis Animal Health is a leader in developing new and better ways to prevent and treat diseases in pets, farm animals and farmed fish
- **Purpose**
Passionately saving, prolonging, and improving animal lives
- **Aspiration**
To achieve global market leadership in the segments we compete in

Novartis R&D Organisation

R&D People

- approximately 400 individuals: veterinarians, scientists and technicians
- over 50+ DVMs,
- 100+ PhDs,
- 190 science graduates,
- 50+ technical assistants & support
- world class skills, dedication, passion

R&D facilities

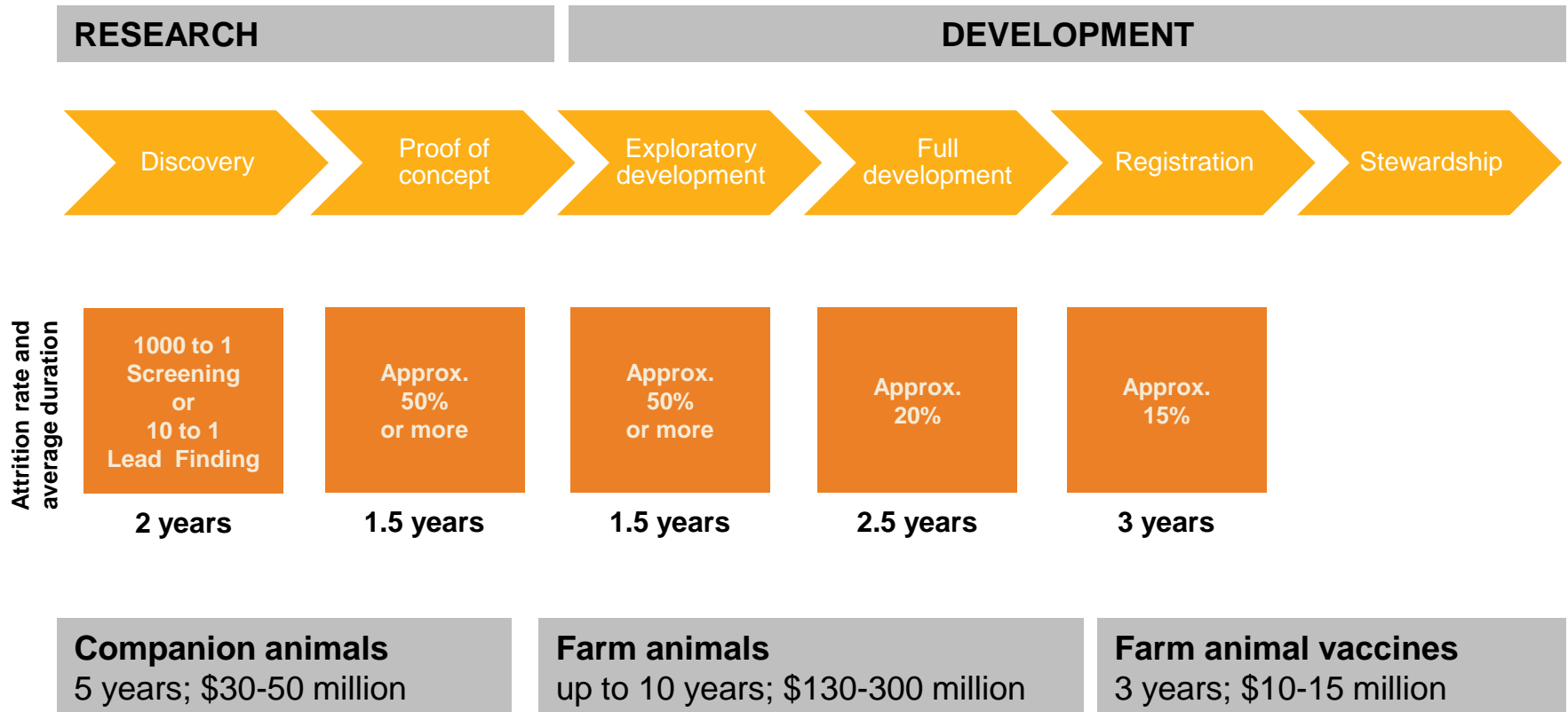
- 6 main sites, 3 minor sites
- Multi-disciplinary laboratories
- Formulation development
- Animal housing and aquaria



Major R&D and Production Sites

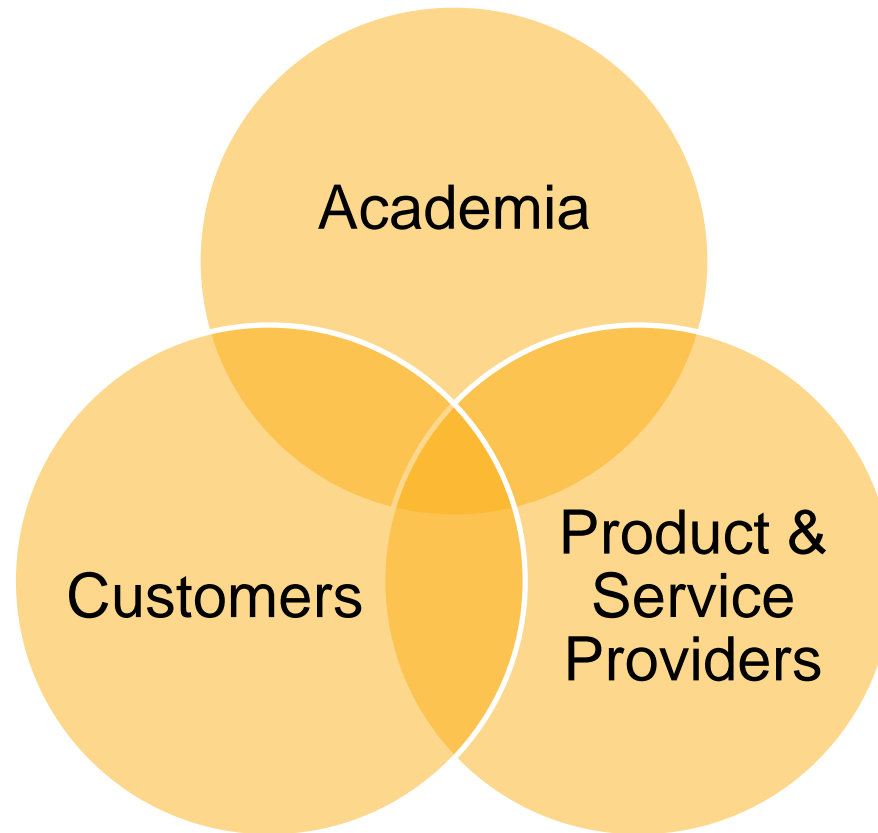


R&D; High investment with high risk

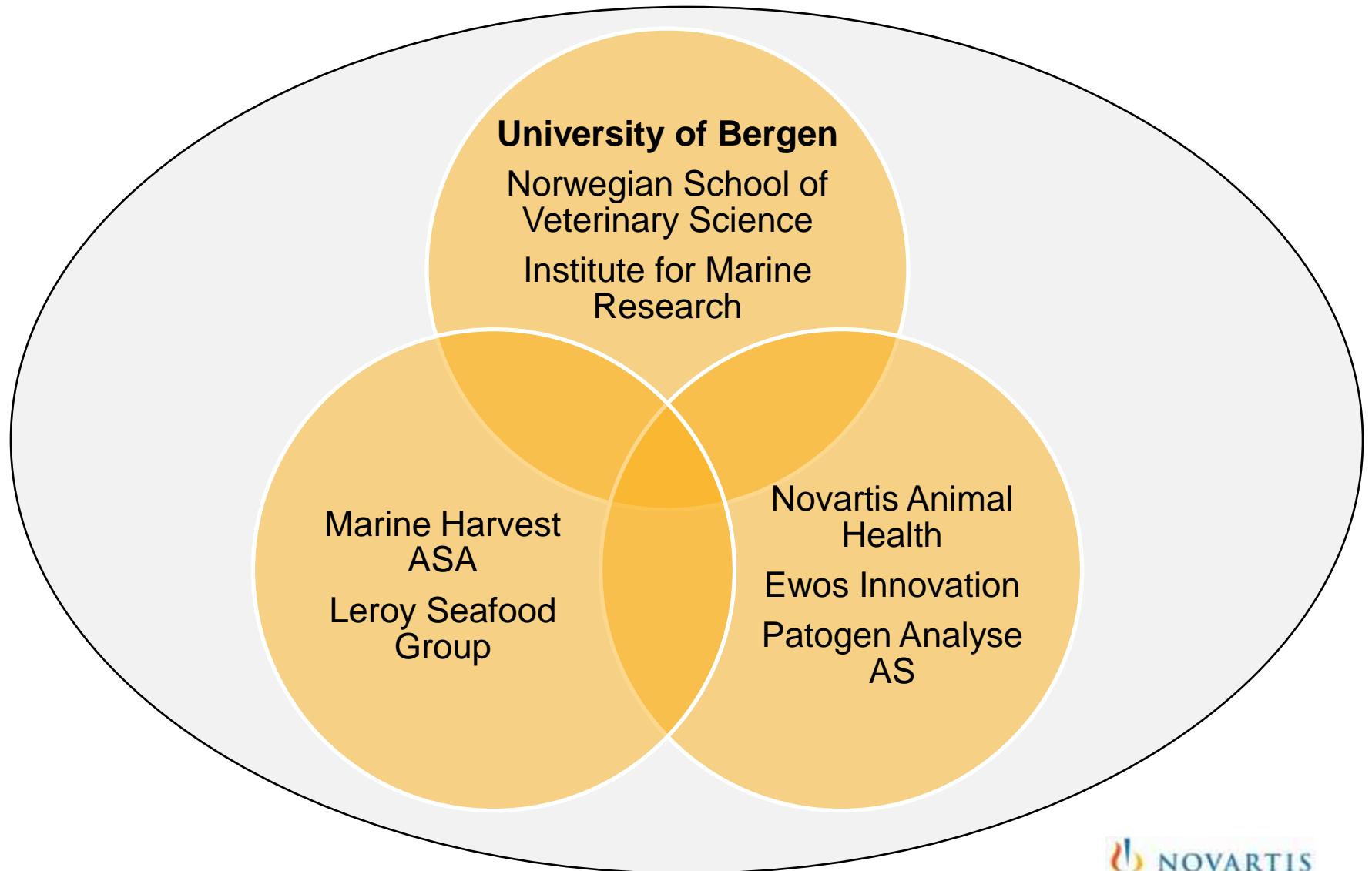


- EU cost increase 1991-2006: +157%
- US cost increase 1991-2006: +106%

Improving the probability of success; The critical role of world class research alliances



The Sea Lice Research Centre; A giant step forward for sea lice R&D



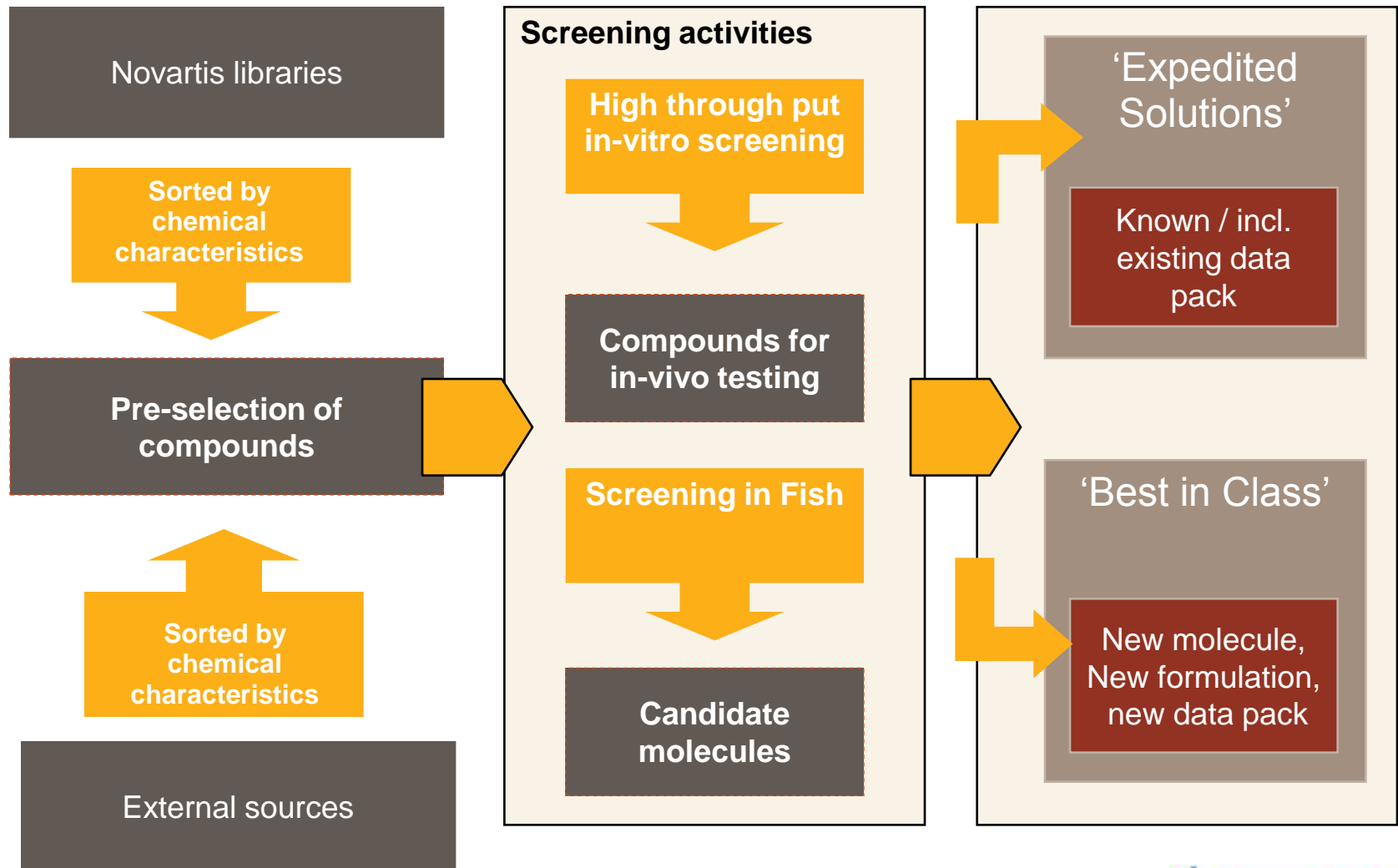
Sea Lice Research Centre

Work packages and primary sponsors

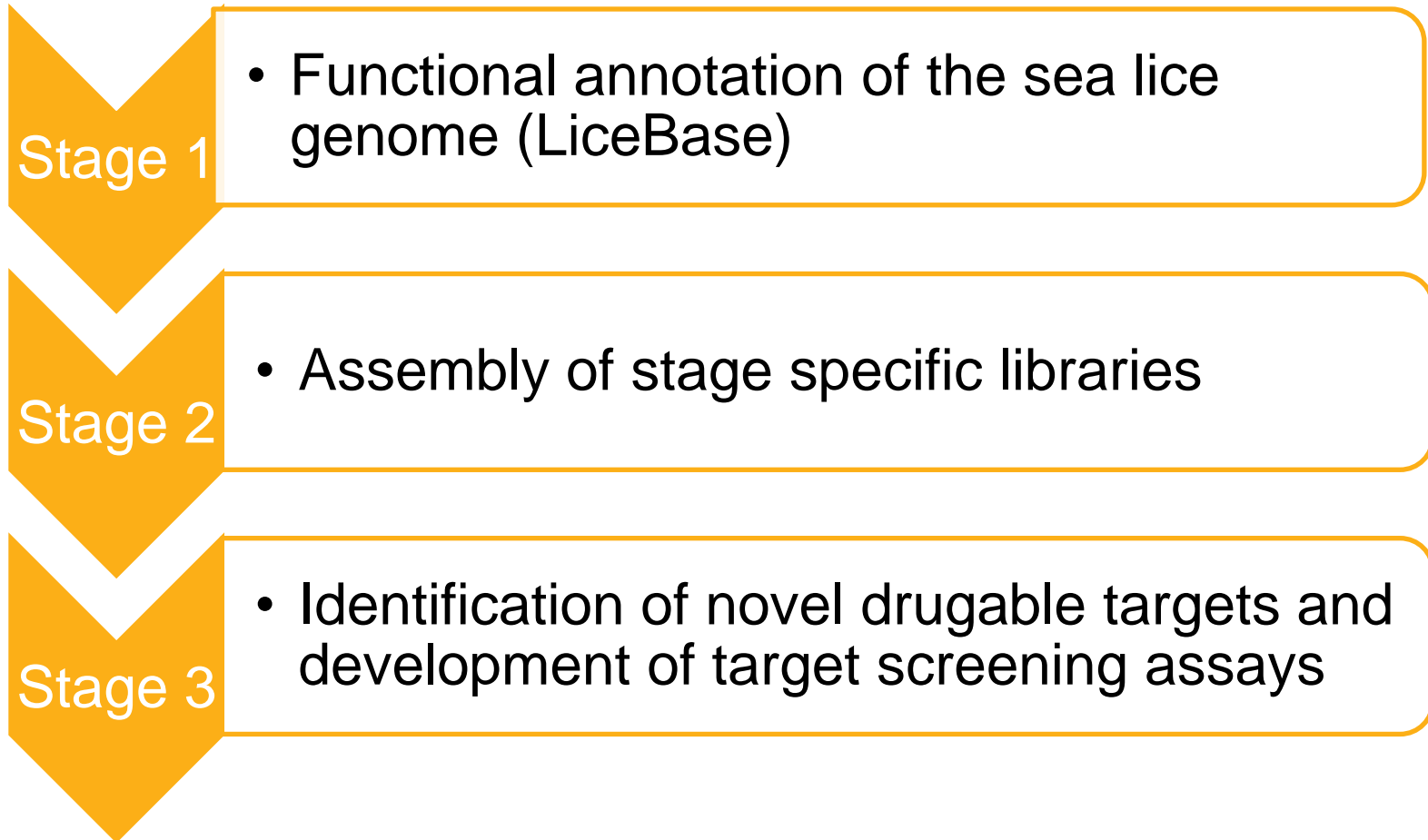
- **Development of new medicines** (Novartis Animal Health)
- **Specific immunological strategies** (Novartis Animal Health)
- Resistance monitoring (Patogen Analyse AS)
- Anti-attachment strategies (Ewos Innovation)
- Non-specific immunological strategies (Ewos Innovation)
- Gene silencing (cross-work package enabling technology)

Note: Marine Harvest and Leroy Seafood Group have a declared commercial interest in the outcome of all work packages.

Development of new medicines; Internal Novartis R&D

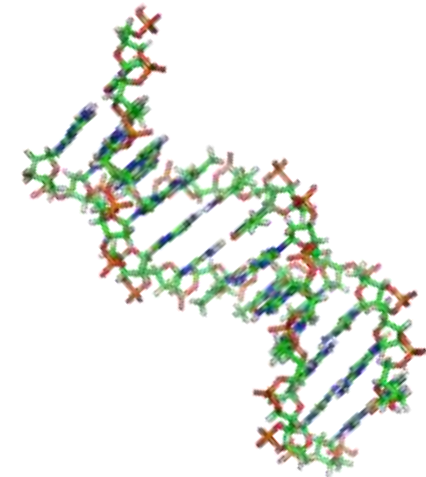
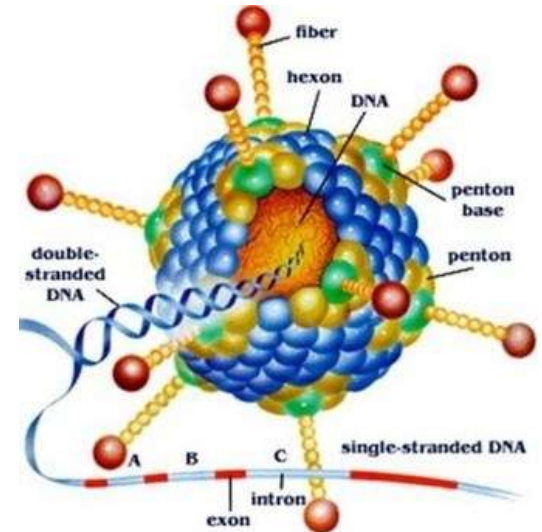


Development of new medicines; Role of the Sea Lice Research Centre

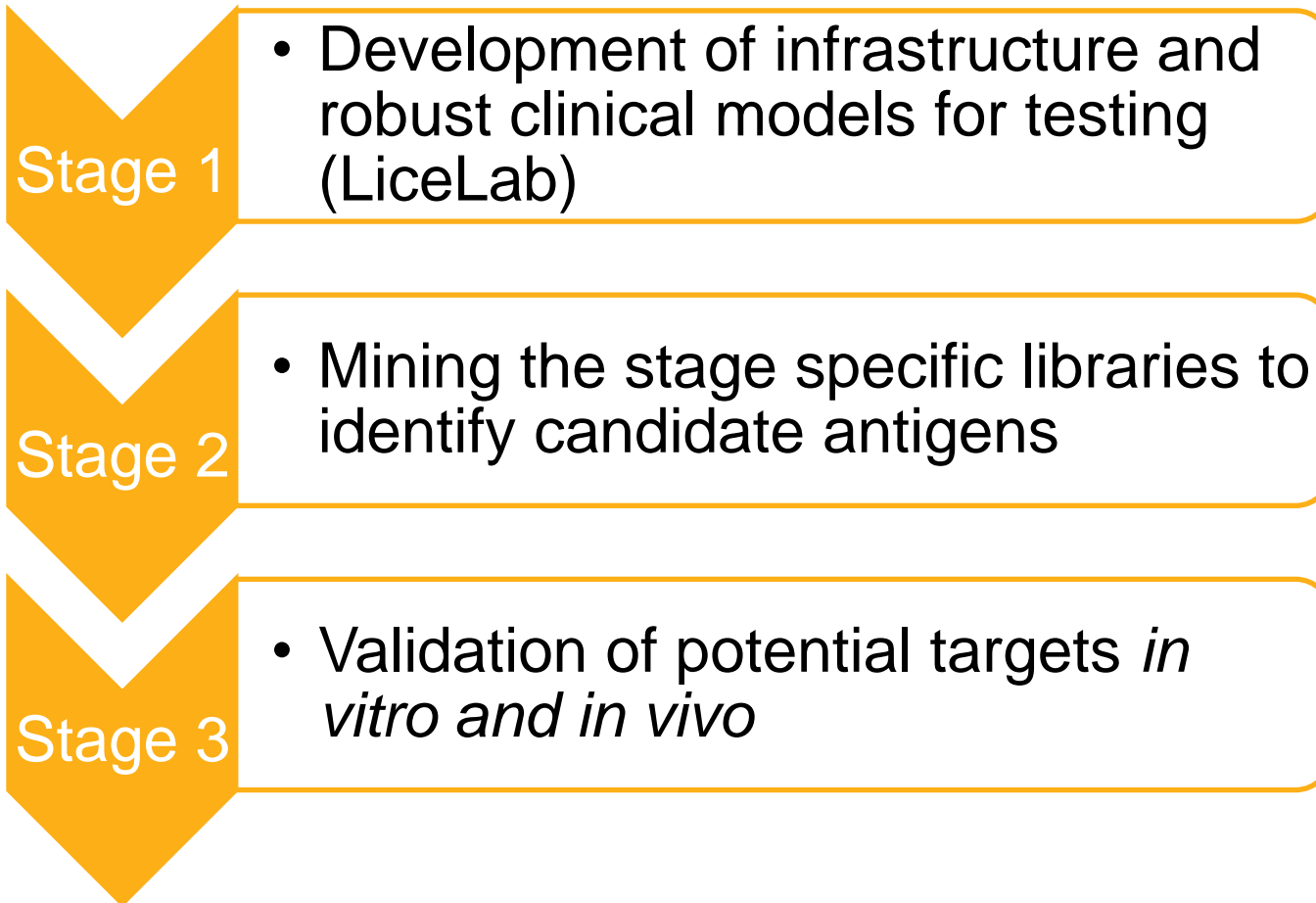


Specific immunological solutions for sea lice control; Internal Novartis R&D

- Develop novel vaccines and biologics for the Aqua industry
- Access to a world class portfolio of enabling technology
- High throughput cloning/expression capability
- Multi-platform GMP manufacture



Specific immunological solutions for sea lice control; Role of the Sea Lice Research Centre



Conclusions

- The **Sea Lice Research Centre** will change the balance of power in the ongoing battle to control sea lice.
- The **Norwegian Research Council** has shown great courage and foresight in supporting the creation of this dedicated, single pathogen research centre.
- This is a “once in a generation” opportunity, the unmet need is critical and the clock is already ticking...
- The entire management group of the centre recognize a burden of responsibility but have embraced the challenge!



Thanks for your attention!

Questions or comments?