



PharmaSea

“Going to Extremes for Novel Bioactive Compounds”

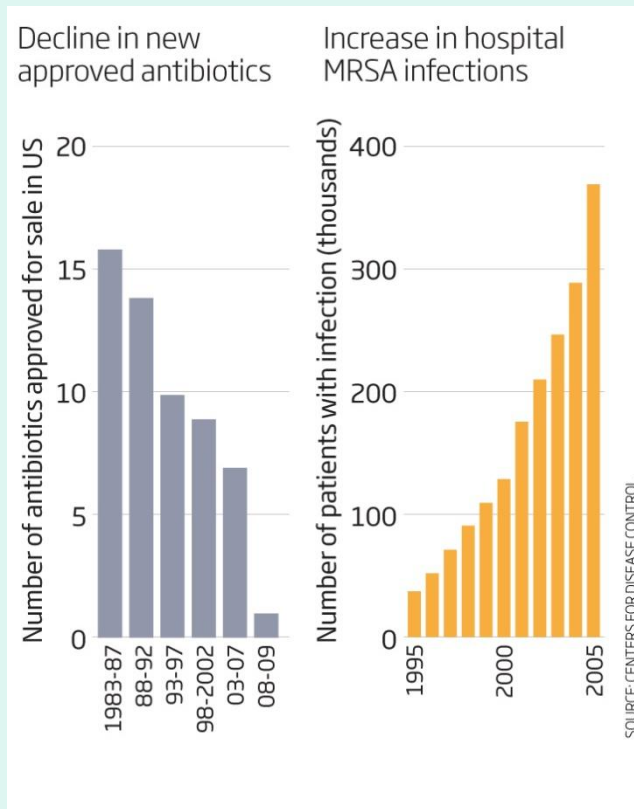
Showcase of EU innovative Blue Economy Projects

Hamburg, 12 September 2016

Boris Mannhardt

BIOCOM AG

Why PharmaSea?



Source: New Scientist

- *New therapeutics for microbial infections and CNS diseases*
- *Widen bottlenecks in marine biodiscovery pipeline*
- *Develop mechanisms to transfer marine biotechnology to end users*
- *Make marine bioproducts more attractive to develop for industry*

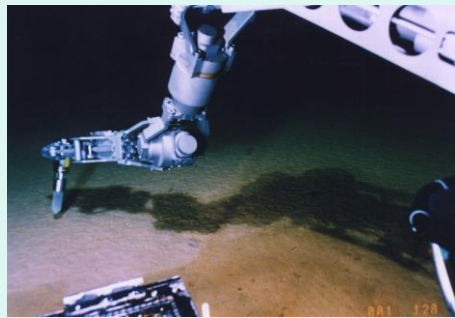
UniAbdn, DeepTek

ACDLabs, RSC, BioBridge

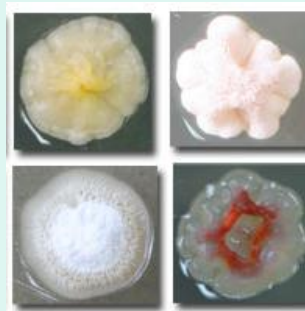
KULeuven, eCoast



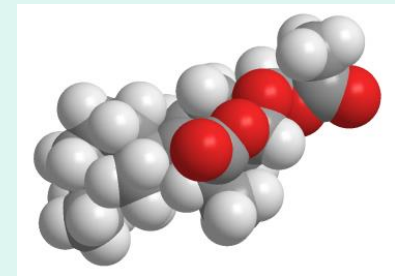
Process and Challenges



Extreme Environment
Legal Access
Physical Access



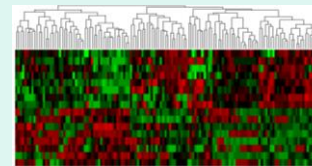
Novel Biology
Isolation/identification
Chemical talent



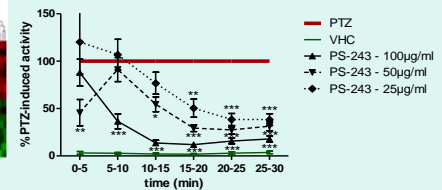
Novel Chemistry
Chemical novelty
Dataming



Product
Scale-up
Knowledge transfer



Novel Activity
Mechanism of action
Toxicity



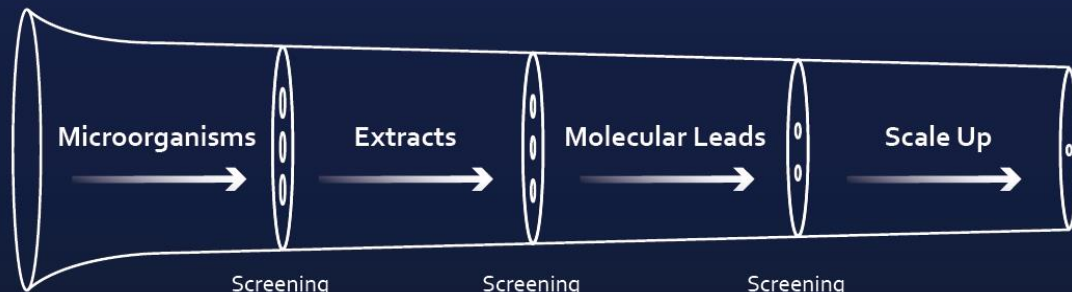
Results



45%
From existing
partner collections

>110,000 screening events

> 700 active dereplicated extracts
Active, non toxic, novel chemistry



2
Drug Leads



55%
New samples from
cold/hot/deep habitats

At 40 Months:

>2,000
Strains

>15,000
Active
Extracts

>20
Novel, active
Compounds

5
Hits for further
Investigation

Up to -6,000 metres

Conclusions and Recommendations

- *PharmaSea contributed to making marine biodiscovery more attractive for industry to adopt*
 - 10 anti-infective drug hits
 - 2 neuroactive drug hits
- *PharmaSea widened the bottlenecks*
 - High quality biodiversity
 - Streamlined biodiscovery pipeline
 - New chemistry with new activity
- *There is a need to provide mechanisms to transfer findings to drug developers. Important things to be discussed are:*
 - Legal aspects of (not only) marine biodiversity collection
 - Regulatory issues for licensors and licensees
 - Lack of risk taking by the industry



Thank you for your attention



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