



NJORTH
BIO_

IP challenges for Marine Biotechnology

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Agenda

- Who is Njorth Bio?
- IP landscape
 - Values worth protecting?
 - Is IP = Patenting? Thoughts from a SME perspective
 - Sectorial needs
 - Investors needs
- The surrounding landscape
 - The Nagoya protocol
 - Global coordination issues
 - Regulating bioprospecting and use of results
 - Profit sharing – why/how?
- Marine Biotechnology industry sector landscape
 - Size of companies
- Take home messages



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A platform for commercialising innovative bio-based ideas

Tromsø, Norway 22 August, 2016

Distribution of Rôles Njorth Bio_ group

- Technology and market assessment
- Establish funding for new companies
- Leases total service package (admin, personnel, office, lab, R&D and S&M) to daughters (pay per use)
- All staff employed at Njorth Bio_Mother AS

NJORTH
BIO_
Mother AS

- Buys full servicepackage from Njorth Bio_Mother AS
- Lean business model – Only acquires cost when needed.
- Direct employment only when needed and well documented

Njorth
Bio_boost AS

Njorth
Bio_trim AS
(Not yet established)

Njorth
Bio_cure AS

Focus is:

- To enable the daughter companies to focus entirely on product development
- Only incur cost when needed – «pay per use» model

IPR considerations – SME perspective

- Is IPR equal to patenting?
- Strongly sector dependent
 - Pharma – mandatory
 - Enzymes – maybe?
- Strongly required by many investors
 - Pharma – mandatory
 - Other sectors – maybe?
 - Investors need to take a new view on patenting in the «bioeconomy»
- Market size
 - Will and must influence the decision
- Marine Biotechnology is largely a SME sector
 - With growing company size growing importance of patenting

Enforcing your right

PATENTING

- Patents are costly
- Patents cover what you pay for
- Patents may not be enforceable/respected
 - Geographic reasons
 - Cost reasons
- Patents leave you exposed to infringement
- Market size may not justify proper patent protection

**But when infringed a tool to reclaim damage
– if you can afford it!**

INDUSTRIAL SECRECY

- Affordable – just keep your mouth shut
- Global «coverage»
- You are «on your own»
- Secrecy will give you some protection
- For smaller markets, competitors are less likely to invest in copying you

**You take a calculated risk
– and for your only asset it may be lethal**

Regulations on the use of Bioresources

The Nagoya Protocol

The *Nagoya Protocol on Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization to the Convention on Biological Diversity*, also known as the *Nagoya Protocol on Access and Benefit Sharing (ABS)* is a 2010 supplementary agreement to the 1992 Convention on Biological Diversity (CBD). Its aim is the implementation of a fair and equitable sharing of benefits arising out of the utilization of genetic resources, thereby contributing to the conservation and sustainable use of biodiversity.

- Very procedure focused
 - Bureaucratic
- Address «Benefit sharing»
 - Payment focus
- Specifies penalties - prison
 - Limit activities

Global Coordination Issues

- Should the UN take charge?
 - Global mandate – also for Nagoya non-ratifying governments
 - Work has been going on for years
 - Use of resources for the benefit of «mankind»
 - Bureaucracy
- Various degrees of national implementation after ratification
 - Complex landscape
 - Difficult to «follow the rules» – many small companies
- National vs. International (marine) territories
 - Uniform procedures
 - Who is the beneficiary?

Benefit Sharing – and why?

- Level of concern not addressed
 - A gram of sediment for DNA extraction is equal to seabed mining
 - Sustainability not considered – should be the purpose of the protocol!
- Bureaucratic
 - New institutions needed
 - Regulations before, during and after bioprospecting
 - Heavy monitoring of liable payments
 - **May lead to poor utilisation of bio-collections**
- What is a benefit?
 - Each new job created will generate a 30% return to society from taxes
 - Payment to whom and for what?
 - Each new job lost or not created – has a directly measurable consequence to society

**DESPITE ADMIRABLE INTENTIONS –
BUREAUCRACY LEADING TO POOR UTILISATION OF BIODIVERSITY AND
LOST BENEFIT SHARING OPPORTUNITIES**

Marine Biotechnology companies

- Very few large companies involved
- Many start-ups
 - Few resources
 - High turnover rate
 - Specialized and bioprospecting focused
 - Difficult to handle complex regulation
 - Close relations to academia - innovative
 - Job creation tightly related to the ease of using biodiversity – ie. Bio-collections must be easy to access

REGULATIONS AT THE INTENDED LEVEL WILL

- **REDUCE ACTIVITIES ON SUSTAINABLE (requiring a small sample once) USE OF MARINE RESOURCES FOR THE BENEFIT OF MANKIND**
 - **REDUCE JOB CREATION AND RETURN TO SOCIETY**

Take home messages

View of an SME

- **IPR Protection**
 - **Patenting**
 - good protection but are you **able to/can afford to** enforce it
 - mandatory in pharma
 - **Secrecy**
 - the SME alternative – «patenting» for poor people – realistic for many SMEs
 - the alternative for small markets
- **Utilisation of Biodiversity**
 - **Benefit sharing**
 - taxes from jobs and companies outperform taxes on the use of biodiversity – every job lost outweighs proposed compensation model
 - **Bureaucracy in regulating the use of biodiversity**
 - **National/International jurisdiction** – the rôle of the UN
 - **Level of concern poorly addressed** – extraction of DNA (1g) vs seabed mining
 - **Operationalise biocollections for commercial development**

Thank you for your attention!

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