

Opleiding SBO

IP Exploitation

Tony Tangena

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Presenting today

Tony Tangena



- Former SVP Philips Electronics, responsible for total Philips patent portfolio and counselling businesses in IP, Licensing manager
- Former President epi, the organisation of European Patent Attorneys
- Epi Council member for NL
- Adviser to international firms, organisations and SMEs

Agenda

- **Introduction:**
 - Why is IP important
 - Is NL innovative?
 - Intellectual Economy
- **IP strategy**
 - Different flavors in IP
 - Different value creation models
 - How to structure and build an IP portfolio
 - Considerations for strategic geographical choices
 - How to build flexibility in the portfolio
- **IP strategy for SMEs**
 - Examples of SMEs successful in building and exploiting IP
- **Summary**

Agenda

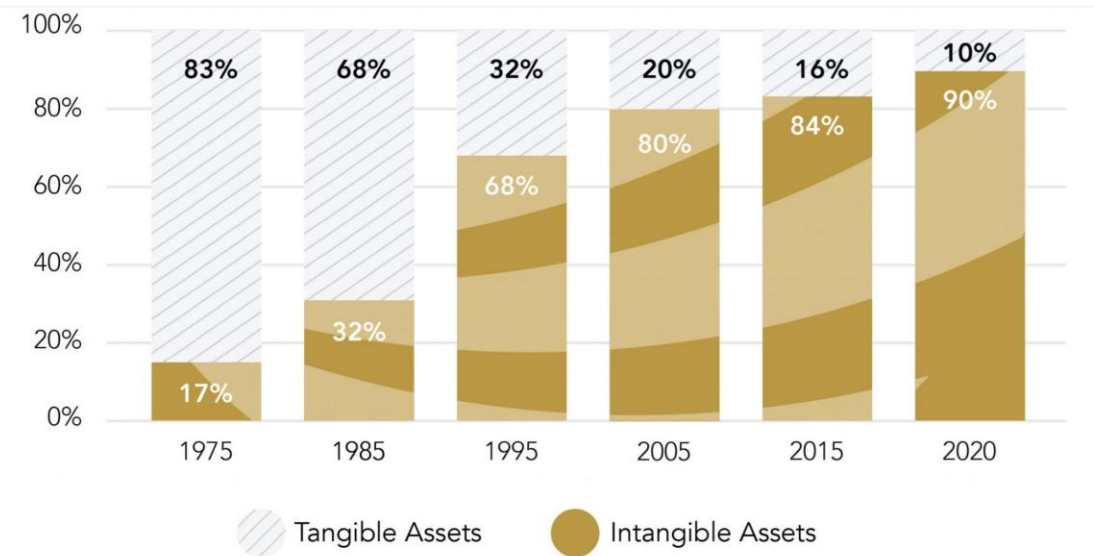
- Introduction:
 - Why is IP important
 - Is NL innovative?
 - Intellectual Economy
- IP strategy
 - Different flavors in IP
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Why intangible assets are important

- Intangible assets form ~90 % of value of company
- Why?
 - Barriers to market entry
 - Distinguish products from competition
 - Long life in case of Trademarks
 - More stable and profitable earnings stream

In essence they create value for the company

Components of S&P 500 market value



Copyright Ocean Tomo

Intangible assets value of top 15 companies in NL average 85.7% (Global Innovation Index 2025)

Do you think the Netherlands belongs to the top 10 most innovative countries in the world?



country	2025	2024	2023
CH	1	1	1
SE	2	2	2
US	3	3	3
KR	4	6	10
SG	5	4	5
UK	6	5	4
FI	7	7	6
NL	8	8	7
DK	9	10	9
CN	10	11	12
DE	11	9	8
JP	12	13	13
FR	13	12	11
BE	21	24	23
IT	28	26	26
ES	29	28	29

Global innovation index 2025

- Many top countries are in EPC
- NL slowly going down



JOHNSON
Cornell University

Global innovation index 2025

Performance NL: # world-wide ranking (139 countries)



• Not good

- Policy stability for doing business #40
- Pupil-teacher ratio secondary #68
- Graduates science engineering tertiary #79
- Low carbon energy use #77
- Domestic industry diversification #37
- Youth demographic dividend #106
- FDI (foreign Direct Investment) net inflow #137
- Labor productivity growth #95
- Trade Marks by origin #53



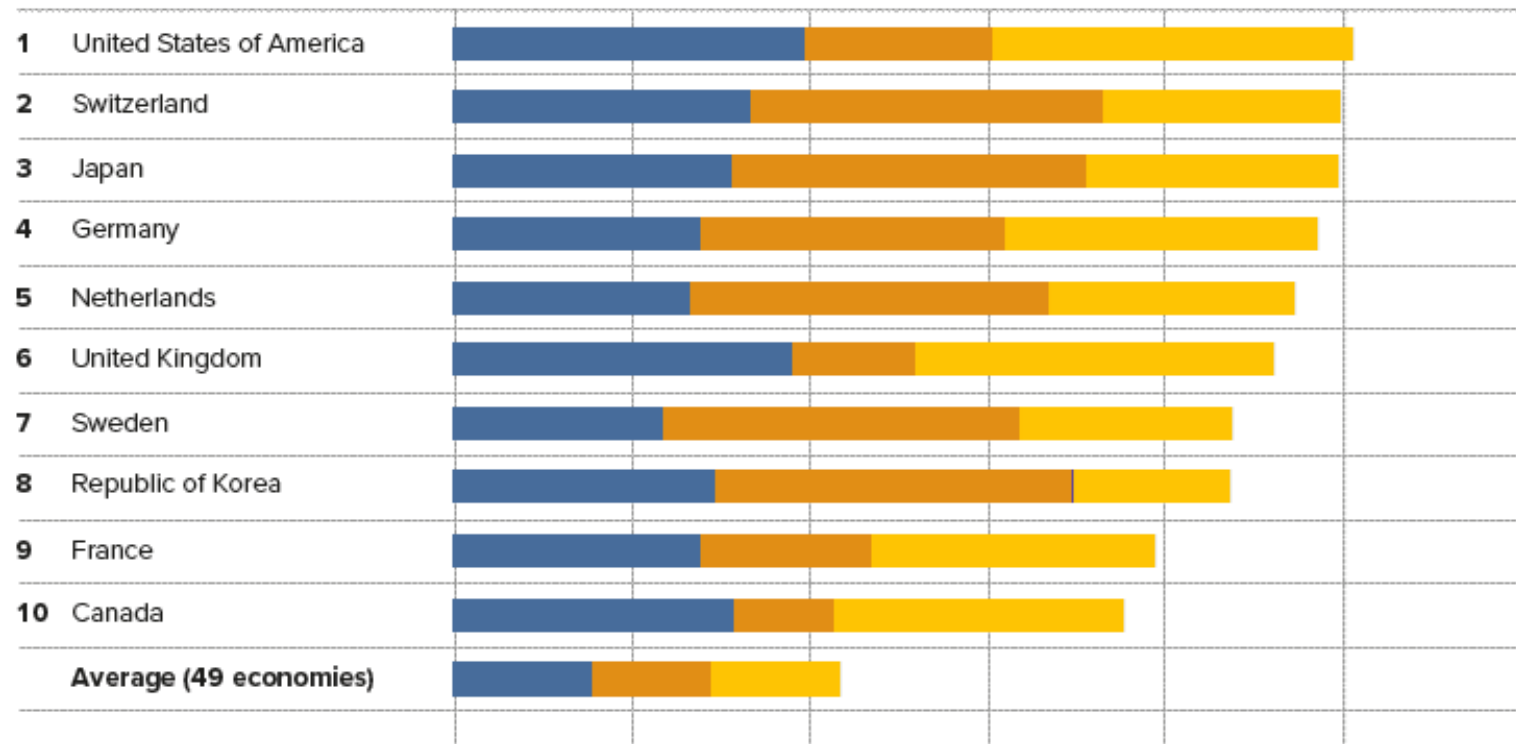
• Good

- Regulatory Quality #6
- Logistics performance #3
- Finance startups and scaleups #7
- Knowledge-intensive employment #5
- Innovation linkages cluster #3
- IP payments #7
- Research talent % in businesses #6
- Knowledge creation cluster #6
- IP receipts, % total trade #3
- IP assets intensity, top 15 85.7% #4
- On line creativity cluster #3



Quality of innovation: top 10 high- and middle-income economies, 2020

High-income economies



► Sum of scores



■ 2.3.4: QS university ranking average score of top 3 universities

■ 5.2.5: Patent families filed in two or more offices

■ 6.1.5: Citable documents H-index

Table 3 Top innovation clusters, by intensity, 2025

Rank per-capita	Cluster name	Economy	Top applicant	Top scientific organization
1	San Jose–San Francisco	US	Google	Stanford University
2	Cambridge	GB	ARM	Cambridge University
3	Boston–Cambridge	US	MIT	Harvard Medical School
4	Ningde	CN	CATL	Ningde Normal University
5	Oxford	GB	Oxford University	Oxford University
6	Seattle	US	Microsoft	University of Washington Seattle
7	San Diego	US	Qualcomm	University of California San Diego
8	Ann Arbor	US	University of Michigan	University of Michigan
9	Helsinki	FI	Nokia	University of Helsinki
10	Eindhoven	NL	Philips Electronics	Eindhoven University of Tech.

Notes: MIT, Massachusetts Institute of Technology; CATL, Contemporary Amperex Technology Co, Limited.

Source: WIPO Statistics Database, May 2025.



Fourth Industrial Revolution: Connected world/Internet of things

- Integration of supply chain and producers means innovations need to be shared → Need to define who owns what

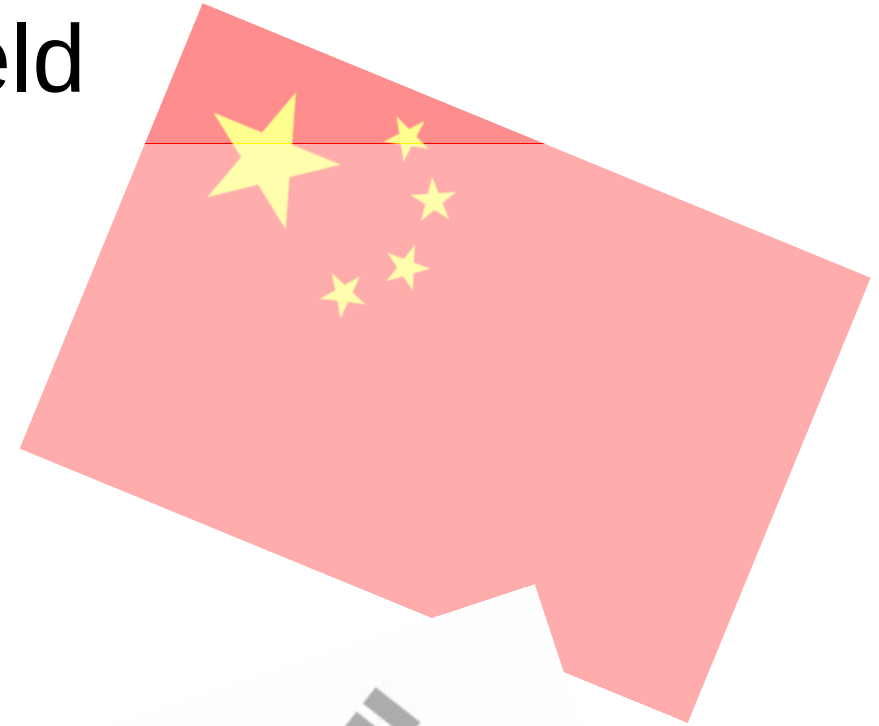
Intellectual Property even more important

- Supply chain is all over the world → necessary to provide well-trained IP professionals who have knowledge about procedures world-wide

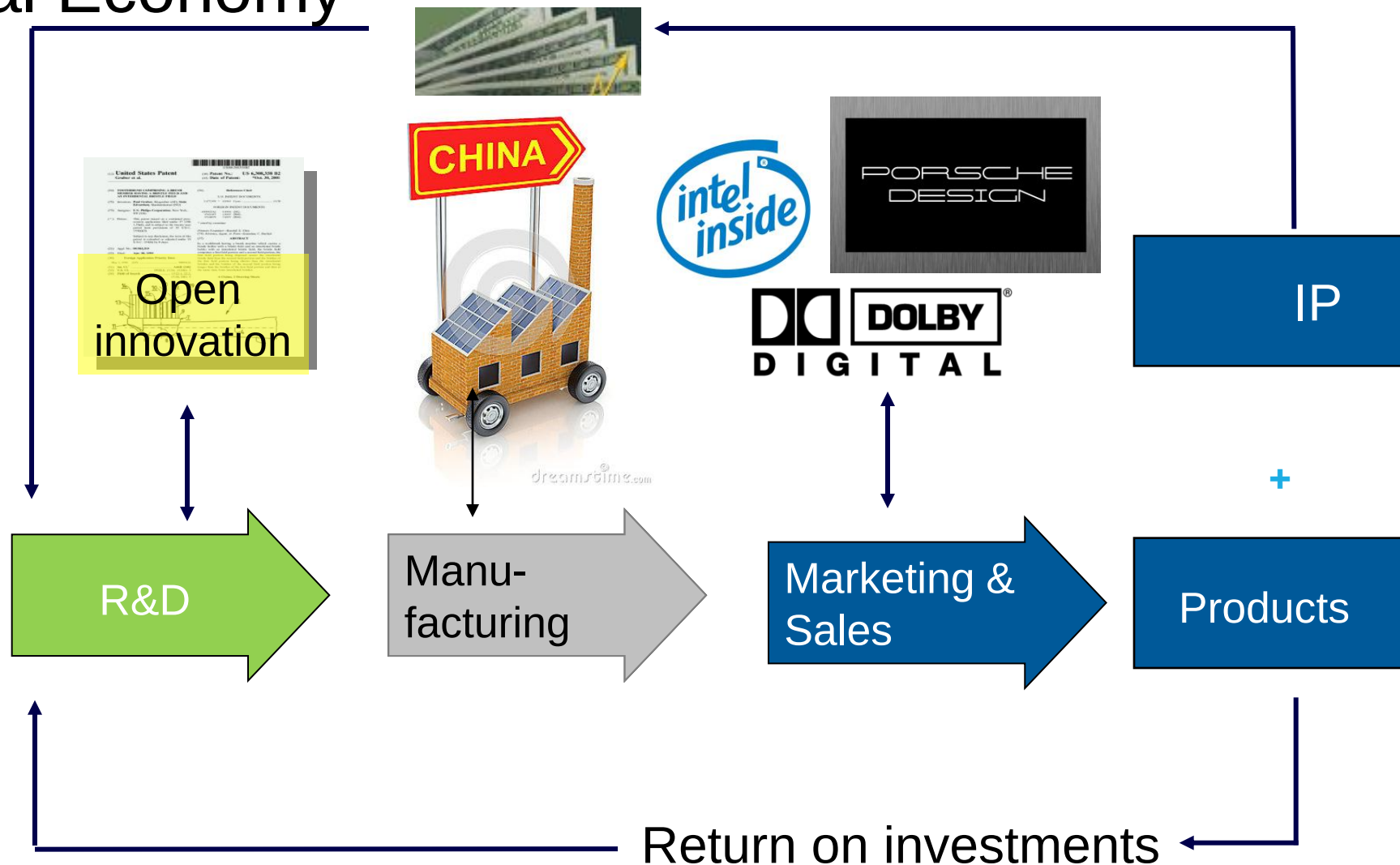


Changing playing field

- More competition, lower margins: US, JP, KR, CN
- Originally more vertically organized companies
 - Own mass production / miniaturization
- Now more horizontally organized companies:
 - specialists
 - outsourcing (to low wage countries)
- Competitive edge of companies shifts from production-based to knowledge-based, i.e. IP-based

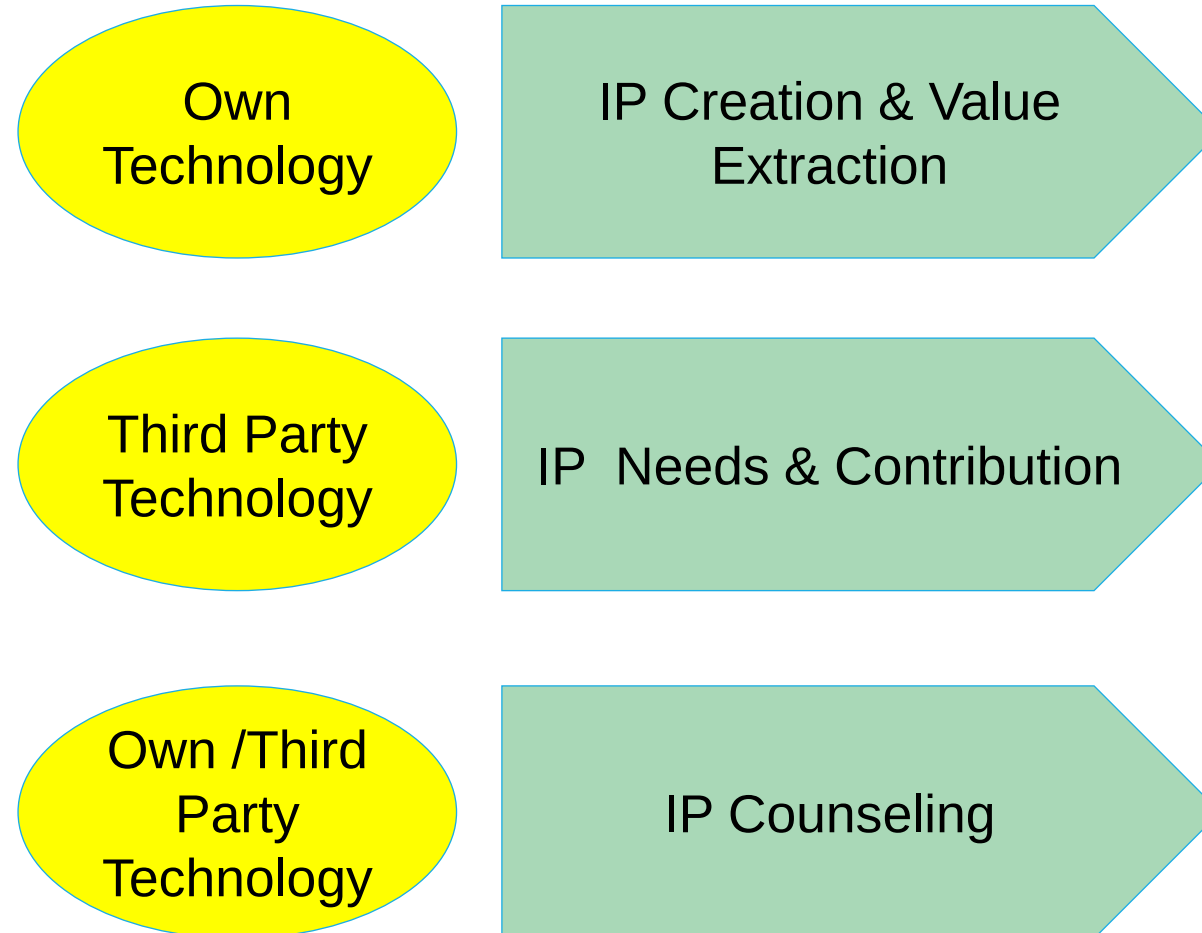


Intellectual Economy



From Philips Electronics

Value creation



After: Philips IP&S



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Example: The digital world

Exciting new products available at affordable prices because of:

- Complex technologies
- Fast erosion prices

Leads to high-tech ecosystems:

- Companies need to act quickly
- Companies need to cooperate
 - Opportunities for companies with specific know-how



The digital world

- On one hand need for **co-operation**
- But on other hand markets are extremely **competitive**:
 - Only premium price for premium products that distinguish in positive way from competition
- **IP rights are necessary** to provide a supporting frame work for the digital world



Why should companies bother with IP?

- IP(R) defines your and other's rights, so that you can trade, sell, buy, exchange IP for money or favors
- **Key for companies: create maximum value with IP**
i.e. how IP assets can be leveraged to support the business in achieving its business objectives; it is a tool and an investment that needs to give a reasonable return on investment
- It is **not only about protecting inventions or preventing competitors to use your inventions!**

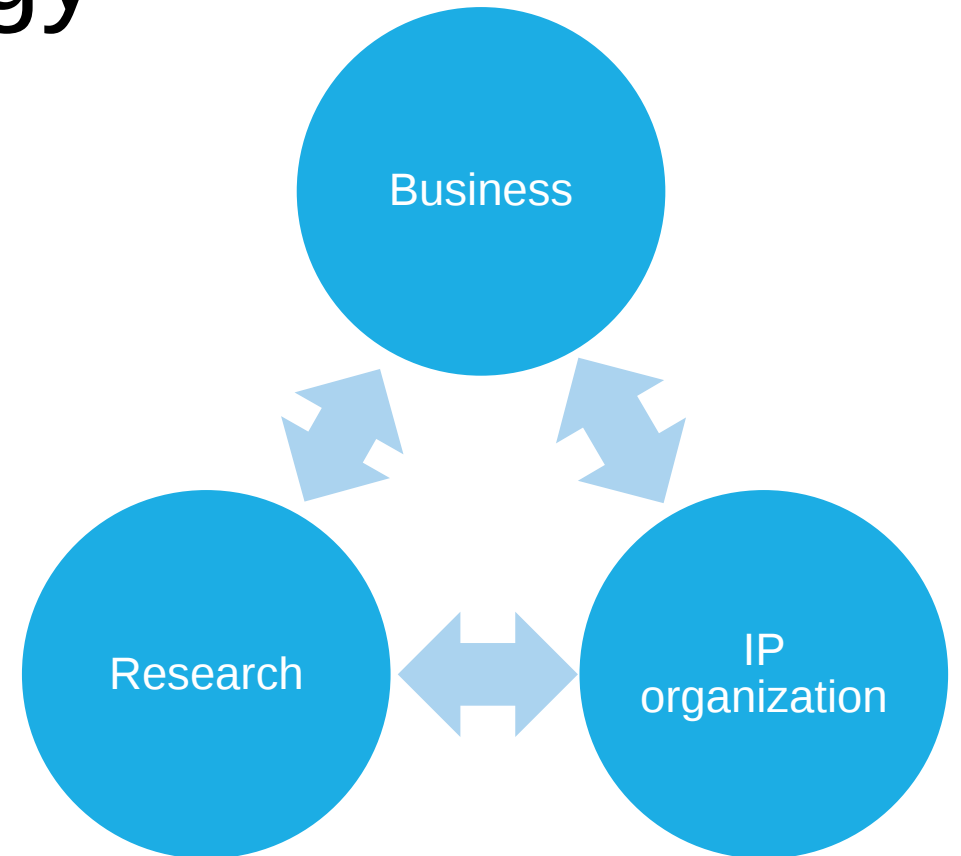


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How to use IP: IP Strategy

- IP strategy must form an integral part of the business strategy
- IP organization agrees with
 - Business
 - Research
- Supported by management
- IP strategy must be deployed



Different flavors of IP

- IP exploitation different
- Focus IP different: internal vs. external
- Different strengths and lifetimes IP: designs, Trade Marks, patents



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Proprietary
“Exclusive IP”

- User Interface Technology/Menus
- Trade Marks, designs
- Display enhancement
- Medicines



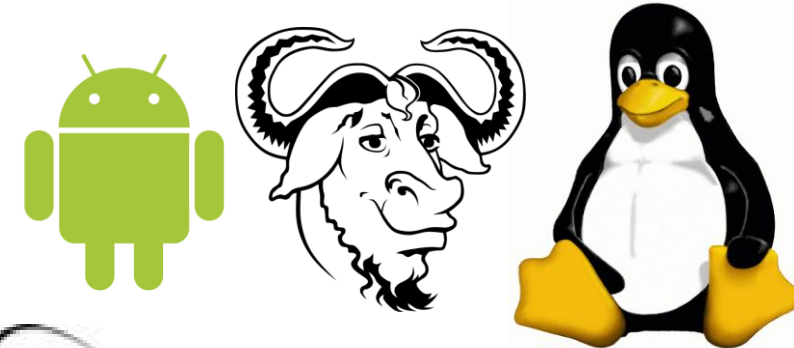
Buy, Sell or
License IP
“Paid IP”

- Standard
- Interesting feature
- Quick to market



Open Source/
Patent Commons/
RF Standards
“Free IP”

- Open up market
- Profit from R&D by others
- Marketing



Collaborative
“Share IP”

- Enabling Technologies
- Production equipment
- Open Innovation



From Philips Electronics

Value from exclusivity

Use:

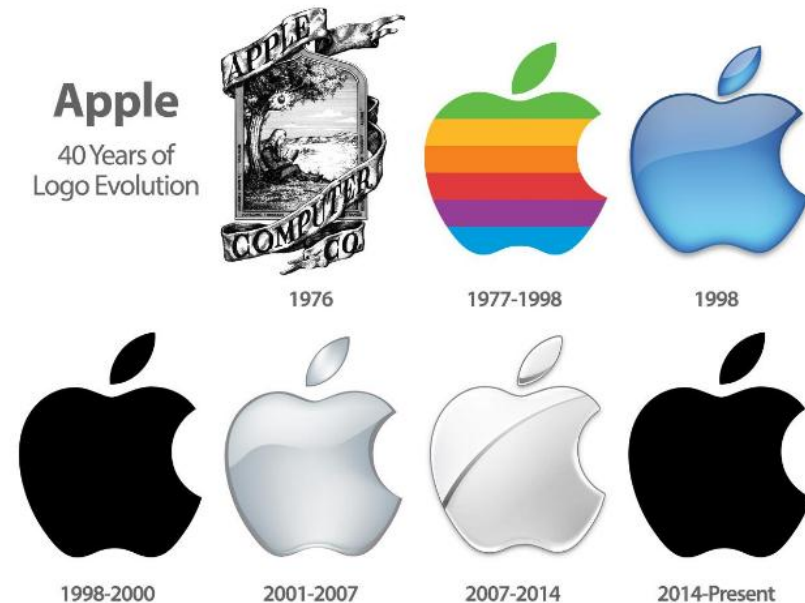
- Keep products exclusive
- Often pharma, chemical areas

Value:

- Larger market shares
- Larger sale price possible

Portfolio:

- Small, focus internally
- All types of IPR: patents, TM, designs



Value through IP exchange

Use:

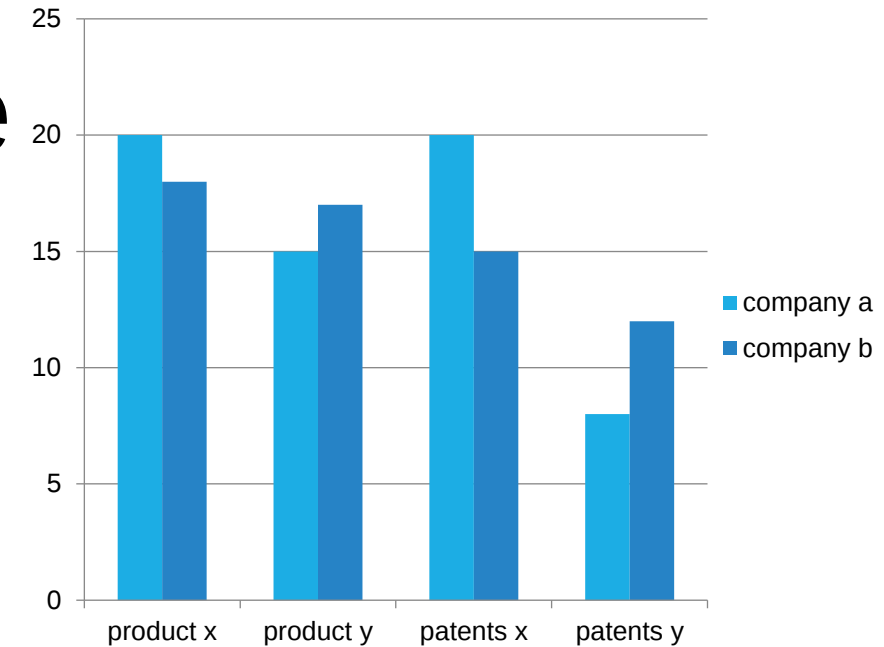
- Cross-licensing
- Mostly when players are equally matched
- Open innovation
- Non-competitive companies

Value:

- Save royalties
- Allows faster development
- freedom of action
- Royalties when no match

Portfolio:

- Medium, focus on cross-partner
- Patents, patent applications



Value from new business

Use:

- IP to open up new business, start-ups
- All areas

Value:

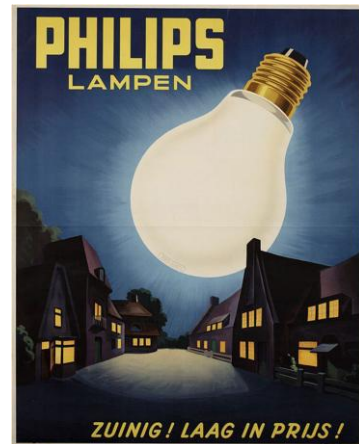
- New business
- New markets

Portfolio:

- Often from existing portfolio
- All types of IPR: patents, TM



ASML



Audio



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Medical devices

Pro-active licensing

Use:

- IPR is licensed, i.e. sold as a product
- Often in areas with standards: telecom or electronic industry
- Patent pools

Value:

- Royalty payments

Portfolio:

- Large, focus on potential licensees
- Consider all alternatives
- Review regularly
- Patents, Trade Marks



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Value from IP Assets

Use:

- IPR is capital to establish partnerships
- In M&A transactions, JVs

Value:

- Advantages for business, like bank loans, shares, partnerships, royalties

Portfolio:

- Small to medium: Tailor-made focus on business partners
- All IPR: Patent (applications), TM, designs



Insurance

Use:

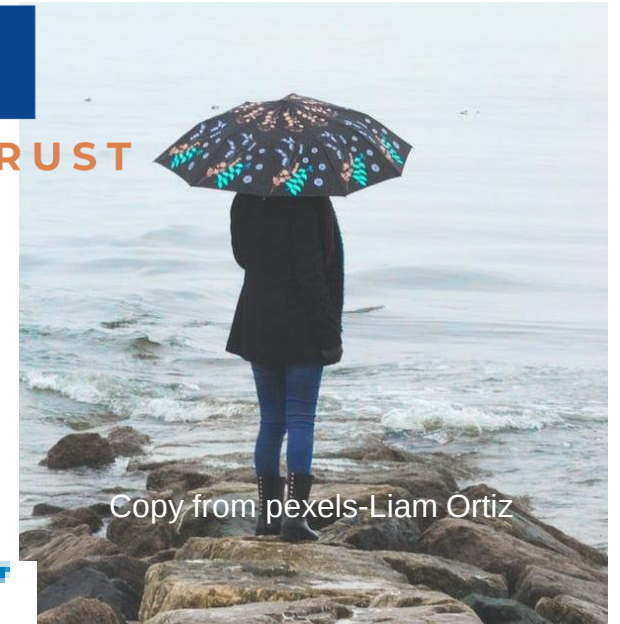
- IP is used as defense when attacked

Value:

- Difficult to quantify value if not attacked
- Possible: Relief from royalty

Portfolio:

- IP portfolio: focus on competitors
- Regular check on IP environment
- Use of defensive patent aggregation: RPX, AST



Marketing tool

Use:

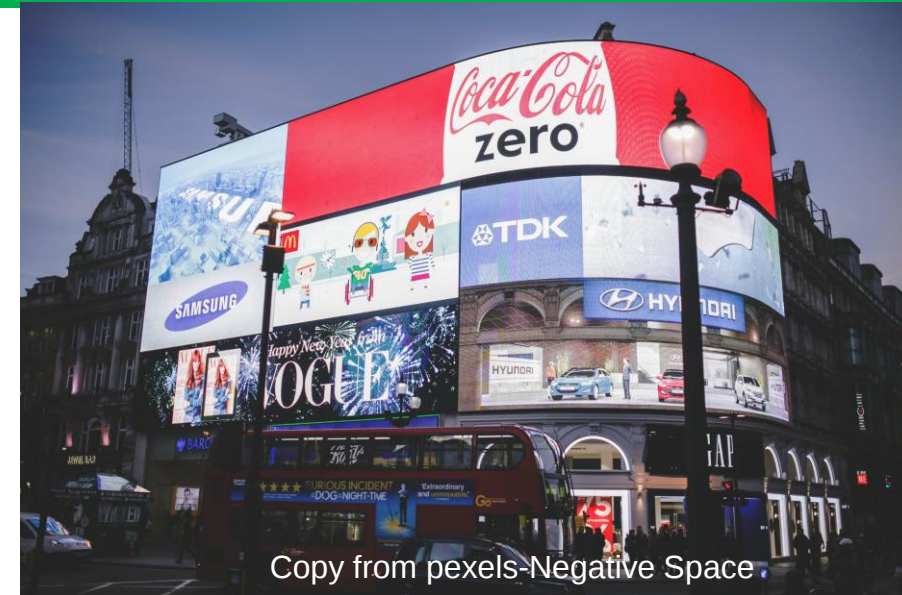
- Show patents or trade mark with a new product
- Often used by SMEs

Value:

- Customers believe product is innovative/unique
- Larger market share

Portfolio:

- Often one country is enough
- Portfolio low cost: on advertisement budget?



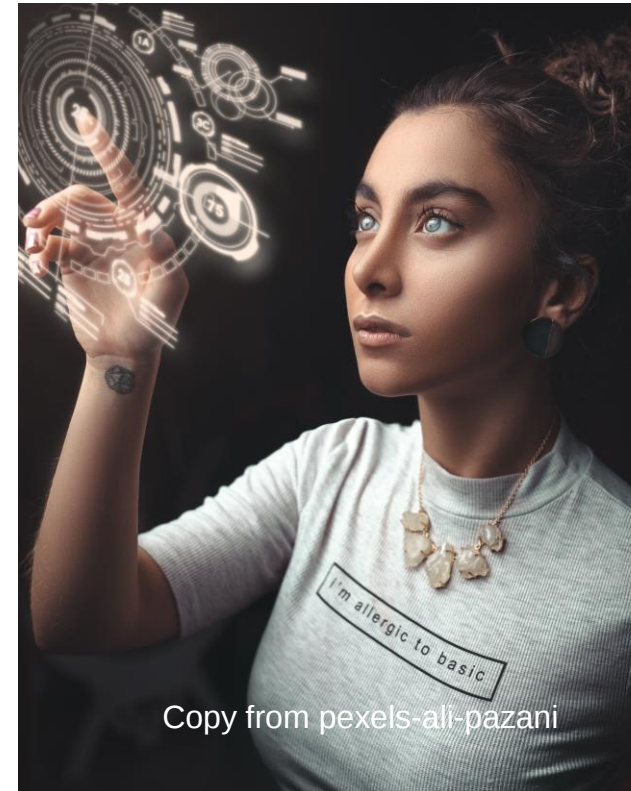
How to acquire IP?

- Own R&D: Rule of thumb: **spend 5% of R&D budget on IP**
- Working with specific companies (JV, JD) or R&D institutes
- Buy companies
- Open innovation consortium

Choose value creation model and build appropriate IP portfolio

Identify technologies for future products / solutions:

- Which products / solutions will require which technology?
- What you are doing today is not relevant



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Choose value creation model and build appropriate IP portfolio

Rank the enabling technologies:

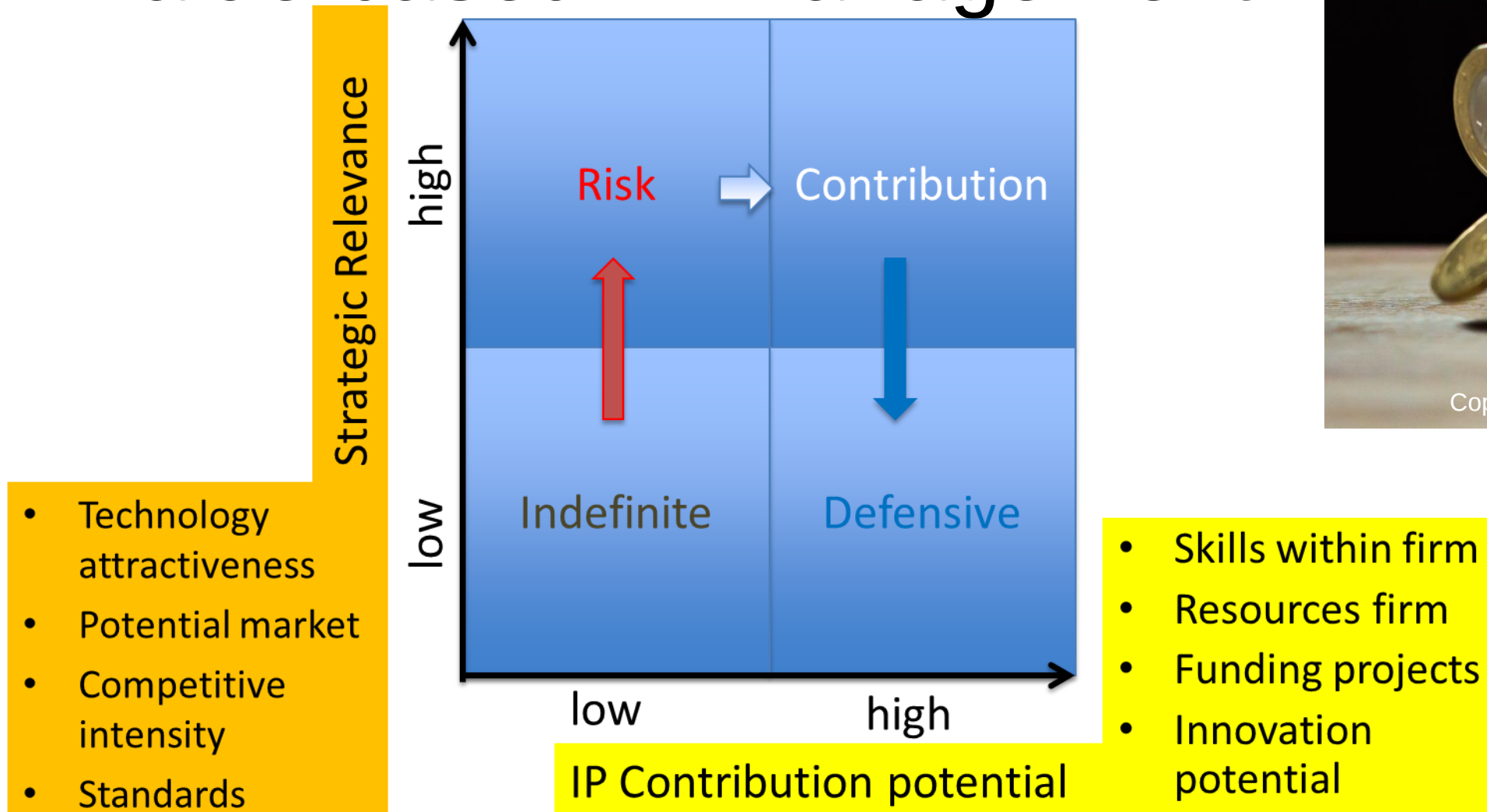
- **Strategic relevance**
 - Technology attractiveness
 - Potential market
 - Competitive intensity
 - Standards
- **IP contribution potential**
 - Skills within firm
 - Resources firm
 - Funding projects
 - Innovation potential



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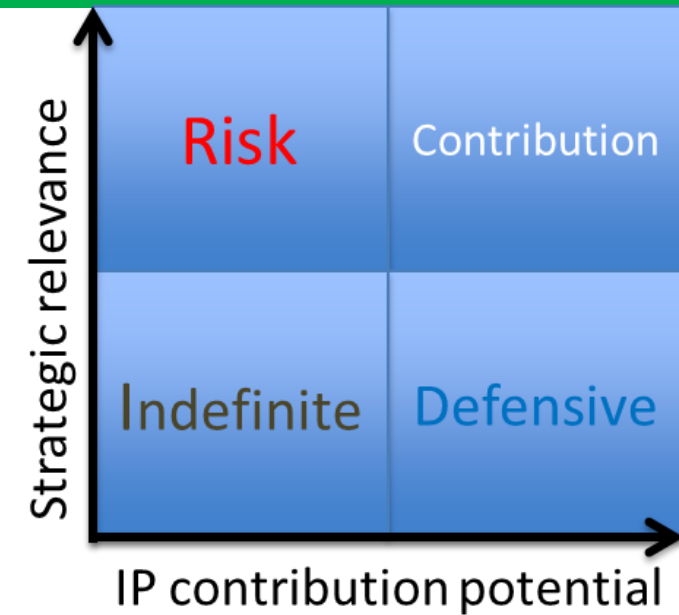
After: Peter Bittner, VIPM, epi seminar

Value based IP Management

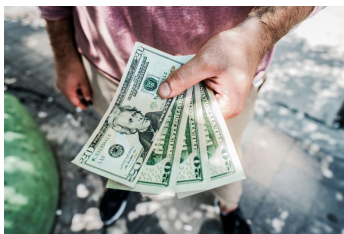


Value based IP management

- **Pro-active** building of an IP portfolio
 - Do not wait for R&D
 - Guide R&D in which inventions you want:
 - Where are risk / contribution areas?
 - How many inventions?
 - Select inventions **based on value** to be created and not on inventive step
- Involve Business, R&D and IP people:
 - Transform risk into contribution areas
 - Weed out the indefinite stuff
- Exploit the defensive area then weed out
- Regularly adjust when necessary



Make value of portfolio visible



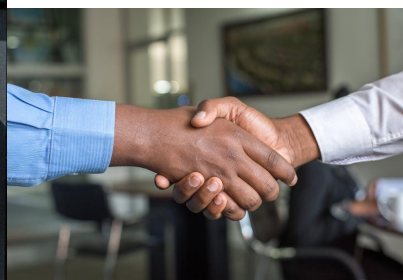
Royalty
income

Pro-active



High margins
through
Exclusivity

Exclusivity



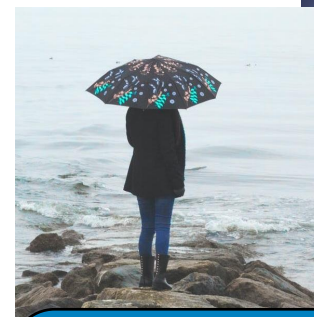
Royalty
savings
via cross
licenses

Exchange



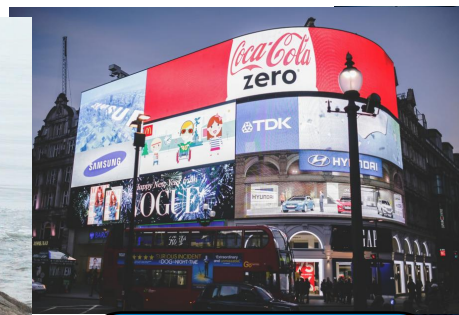
Value from
share in JV/
Bank loans

Asset



Savings from
not having
litigation

Insurance



Marketing
benefits

Marketing



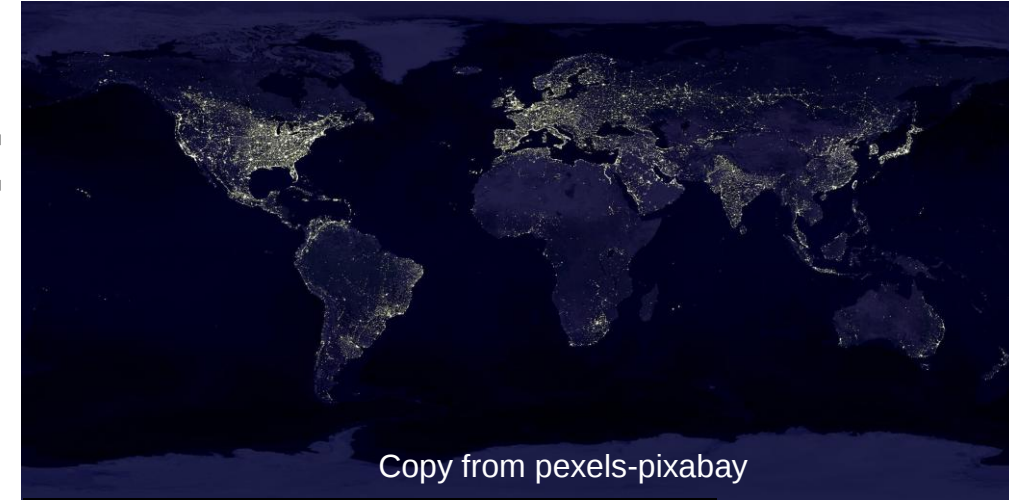
New
business

New business

Total value of the IP portfolio

Strategic geographic choices: Value vs. Costs

- What **value** are you going to create with IPR **in that country/region**?
- Every country **costs** money
 - IP Office: filing, prosecution, maintenance
 - IP Agent
- Look at **balance value versus costs** created in country
- Look ahead 5-10 years from now



Considerations for strategic choices

External factors:

- **Market size** for products
 - EU, US, CN, JP, KR, DE, FR, UK
 - Development market in time: present value
- **Competitor presence** (for licensing or defense/counterattack)
 - Production countries: US, CN, KR, JP, DE, TH, VN
- **Ease of enforcement:**
 - Good litigation system/ representative region: UPC, DE
 - Import / export facilities: border detentions
 - Speed of grant patent: US, EPO pace



Considerations for strategic choices

Internal factors:

- **Strength / broadness of patent:** use search/preliminary opinion
- Consider **total portfolio**, not just one patent: checkerboard approach with larger portfolios
- Your **ambition**



IP strategy: choose value model

SWOT:

- **Company:** turnover, type of products, R&D, IP portfolio, (long term) ambition
- **Environment:** market / technology / competitors, 3rd party IP
- → value creation model
- **Build and manage** the appropriate IP portfolio



Considerations for strategic choices

Flexibility needed, i.e. possibility to keep options open and adapt countries/regions, depends on:

- **Value creation model:**
 - **Exclusivity:** internal focus. More certainty in choices
 - **Licensing:** external focus. Creating options/alternatives. Less control thus more flexibility needed.
 - **Defensive:** external focus. Look at potential competitors. Less control thus more flexibility needed.



Considerations for strategic choices

- The **later the choice the more certainty**
- Flexibility can be created by **choice of procedure**
 - **PCT**: national phase and major costs after 30/31 months
 - **EP** keep open options until grant: EP bundle or UP
 - National Patent: maintain or abandon per country
 - UP: all eggs in one basket
- **Speed-up:**
 - **PACE** at EPO or **PPH**,
 - Respond quick in procedures
- **Slow down:**
 - Extend time limits,
 - Use max time in procedures,
 - Use deferred examination in e.g. CA, CN, FR, DE, JP, RU, KR



Overview

- Introduction:
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Case studies SMEs

- Introduction: IP for SMEs
- Case studies:
 - Aerogen (IE)
 - Orcan Energy (DE)
 - Fractus (ES)
 - Skeleton (EE)



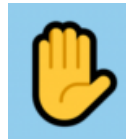
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Case studies are based on examples provided by the European Patent Office

Finance for startups and scaleups in 2025

- NL #7
- BE: #5, DK: #-
- DE: #27, FR: #18, UK: #32
- FI: #1, NO: #29, SE: #19
- CN: #22, JP: #39, US: #16

Q: Does NL belong to the top 10 countries, where it is easy to get finance for startups and scaleups?



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www.glasbergen.com

LOANS



**“Do you have any other collateral...
besides this e-mail from a Nigerian prince?”**

There are many possibilities in NL to get credit also from outside financial institutions, for instance via RVO.

Introduction: IP for SMEs

Leveraging of patents by SMEs:

- **Exclusivity** for their products and services
- **Asset** for attracting investments
- **Licensing** to external partners
- **IP exchange** for cross licenses
- **Insurance** for FTO
- **Marketing tool** to attract customers
- **Renew business models** and enter new markets



Introduction: IP for SMEs

Good practices IP strategy and management

- Align IP strategy with business strategy, involve other departments, promoted by top management
- Use IP in the strategic decision making process to see what competitors are working on (espacenet), FTO
- Holistic IP management, involve: in-house/external experts; business, legal, R&D, IP department

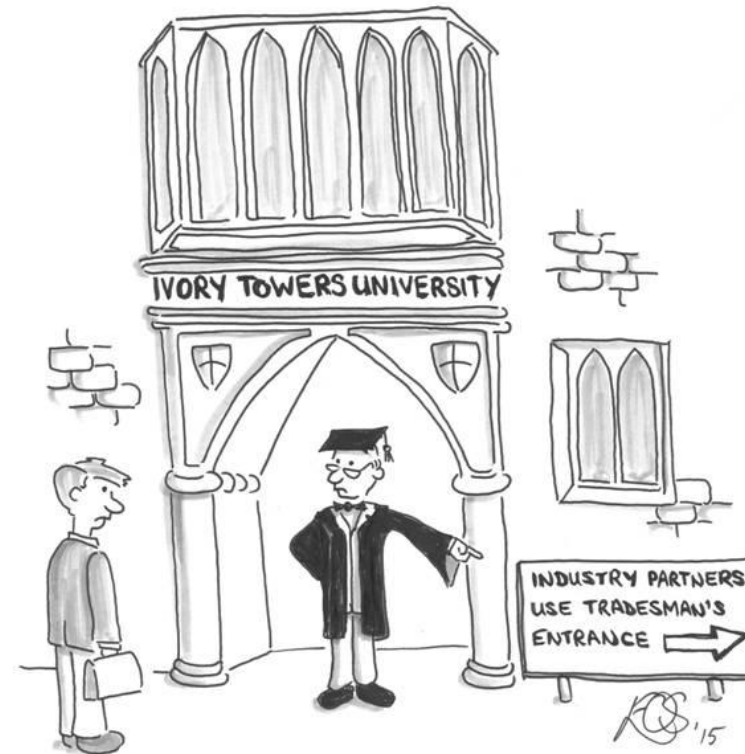


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Business sophistication

- University-industry research collaboration in 2025:
 - NL #5
 - BE: #18, DK: #9
 - DE: #15, FR: #30, UK: #12
 - FI: #14, NO: #3, SE: #8
 - CN: #11, JP: #26, US: #4

Do you think the Netherlands belongs to the top 5 in collaboration with universities?



"Industry partners use the tradesman's entrance."

Remark: Only NO and the US are better with collaboration between companies and universities

SME case 1: Aerogen (IE)

- **Area:** Aerosol drug delivering for medical applications
- **Turnover:** 150M (2025)
- **Staff:** 500 (2025)
- **Established:** 1997
- **Patents 2025:** 300
- **Customers:** Healthcare providers, including Medtronic, Philips, GE



SME case



- **Origins:**
 - Small startup with aerosol technology
 - Acquisition by leading pharma company
 - 2007: Management buyout
- **Technology:** nebulizer for aerosol
- Aerogen's technique **integrated** in global leaders products
 - Strategic partnerships with **licensing and distribution** partnerships
 - **Cooperations** with universities with IP for Aerogen



SME cas



IP portfolio strategy and management:

- Provides **monetary advantages**:
 - One off license fee or running royalties
 - Licensed products sell for 10-50 times more
- Provides **intangible advantages**:
 - Patents **promote excellence** and **convince customers**
- IP team works with **trusted IP Councils**
 - Patents and trade secrets
 - Selection / review / process ideas
 - Competitor watches, patent searches
 - In-house IP training 2x year



SME case



Aerogen®

“Our partners expect strong IP and that the company is prepared to defend it. They performed a thorough due diligence investigation of our IP during negotiations.”



Brendan Hogan
Senior VP Engineering, Aerogen

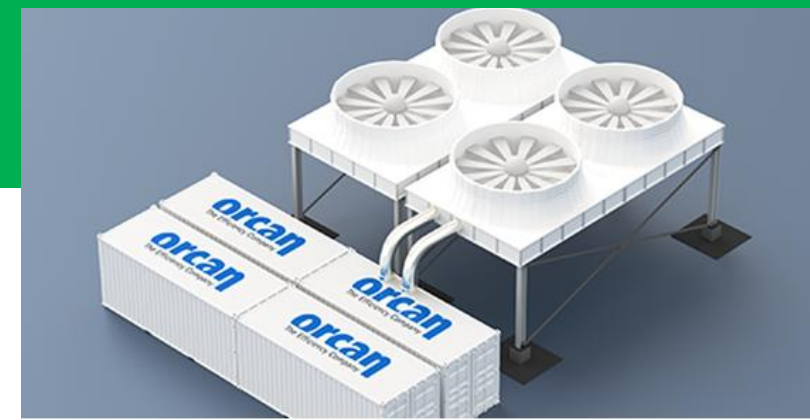


SME case: Orcan Energy

- **Area:** Recycle: turn waste heat into electricity
- **Turnover 2024:** ~20M€
- **Staff:** 80
- **Established:** 2008
- **Patent (applications):** 170
- **Customers:** Energy producers / suppliers



SME case:



- **Origins:** spin- off TU Munich. Research group developed compact, cost efficient system for turning waste heat from combustion engines into electricity
- Two main patents and related patents by TUM
 - Patents from TUM were acquired by Orcan
 - Patents essential to **attract funding** for spin-off
- Orcan moved from one-off specialty machines to standardized machines with standardized tested components



SME case:

IP portfolio strategy and management:

- Use of standardized components makes copying easy so the need for **protection through patents**
- Patents also **promote technical advantage and innovation skills**
- Orcan uses **open innovation** but avoids joint ownership, instead relies on cross-licenses
- Not yet **licensing out** but under consideration
- For ideas patentability check and FTO carried out



SME case



“Without patents we would never have been able to attract early funding from professional investors.”



Andreas Sichert
Co-founder and CEO,
Orcan Energy

“To get patent applications granted successfully, close collaboration between the patent attorney and the inventor is essential. Excellent results will only be reached if the legal expertise of the attorney and the technical experience of the inventor are combined.”



Andreas Schuster
Co-founder and CTO,
Orcan Energy

SME case: Fractus (ES)

- **Area:** fractal antennas for telecom, smartphones, tablets, wearables, IOT
- **Revenue:** generated over 250M\$ from its antenna technology since 1999
- **Staff:** 50
- **Established:** 1999
- **Patent families:** 38
- **Customers:** Samsung, LG, HTC, Sharp, Motorola, ZTE, Sharp, Blackberry

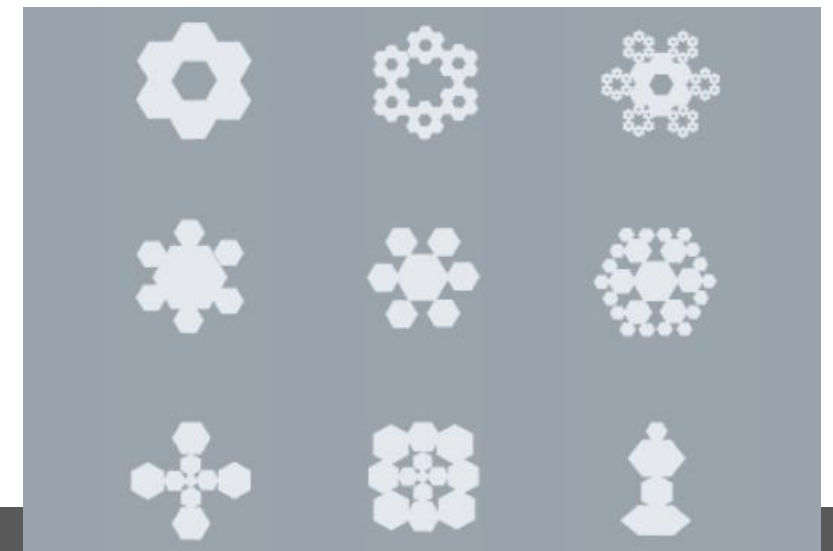


Fractus





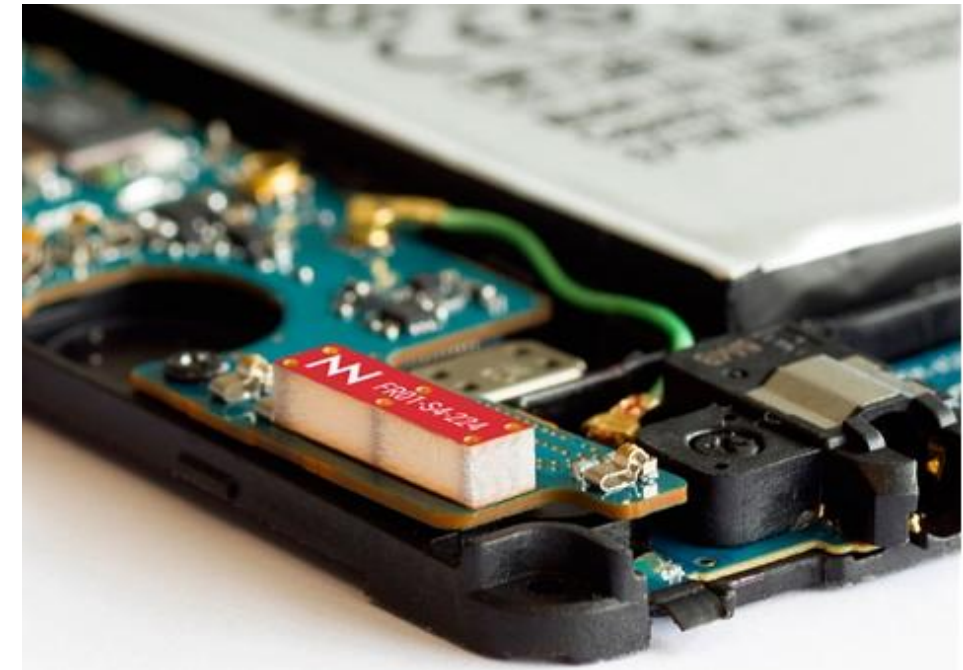
- Origins: contract service design engineering provider for telecom industry. Infringements almost cost the business.
- Strong IP owned by Fractus enabled winning court cases against infringers
- Now a technology development company that **licenses and cooperates with customers**
- History
 - 2002: **Investor** 20M
 - 2007: 40 patent families
 - 2015 100M in **licensing** fees
 - 2014: European Inventor Year award
 - R&D self financed
 - 2015-2025 global expansion





IP portfolio strategy and management:

- Corporate process **supervised by CEO**, CTO, marketing VP and IP director
- **IP strategy originates in corporate vision**, is proactive and forms an integral part of the corporate and technology strategies
- **Outside IP subcontractors** execute and help refine strategy. Relation based on trust and transparency
- File applications for all patentable ideas
- Use datamining (espacenet) to **map competitors** activities





“Looking back, adopting a sophisticated IP strategy early on, when Fractus was still a start-up with limited resources, was the most important strategic decision we made.”



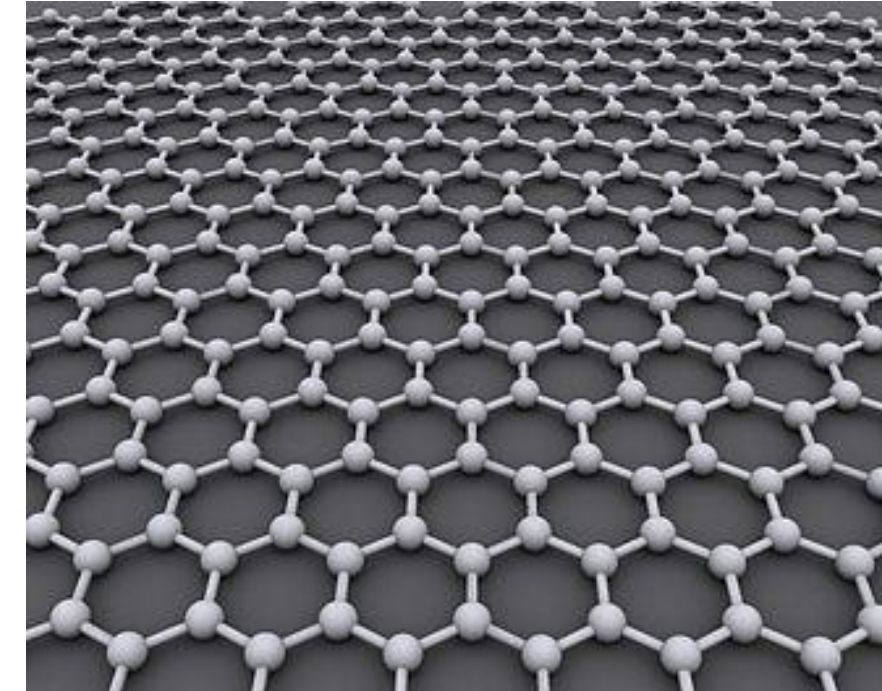
*Rubén Bonet,
co-founder and CEO, Fractus*

SME case: Skeleton (EE)

- **Area:** Energy storage using ultra capacitors
- **Revenue:** 10M\$ in 2023
- **Staff:** ~300
- **Established:** Started in private contracting institute and University Tartu 2014
- **Patent families:** ~20
- **Customers:** Automotive, electric buses, trucks, aerospace, renewable energy

SKELE+ON
TECHNOLOGIES





- **Technology:** Nanomaterial graphene used give 4 times energy density in ultracapacitors and 1.5 times over Li ion solid state batteries
- 2015 First manufacturing plant Tallinn
- 2022 3 production sites in Germany
- R&D in Estonia and Germany
- To date >200M from investors



IP portfolio strategy and management:

- Patent portfolio focuses on **protecting** competitive advances with few strong patents.
 - phase 1 : materials, phase 2: cell modules and storage systems, phase 3: set up proper IP creation and management system, phase 4: implement R&D in line with IP strategy
- Also use the brand (TM) as **marketing tool**
- Growth through **co-developing and standardization**
- Does **FTO analysis**
- 3 person IP team in house supplemented by CEO
- All R&D personnel need a basic understanding of IP





“IP is key to our competitive advantage, and it is important for management to understand more than just the basics.”



Taavi Madiberk
Founder and CEO, Skeleton

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 - How to build flexibility in the portfolio
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 - Examples of SMEs successful in building and exploiting IP
- Summary

Summary

- Companies should use IP to **create value**
- **IP exploitation strategy** is an integral part of the business strategy
- **Different ways to create value**, i.e. different IP flavors and value creation models:
 - Share IP, Free IP, Paid IP, Exclusive IP
 - Exclusivity, exchange, licensing, asset, insurance, market, new business
- **Choose right IP flavor and build appropriate portfolio**
 - Based on strategic relevance and IP contribution potential
 - Decision in what countries/regions to file for patents depends on value vs. costs
 - Build in flexibility based on choice of procedure
- IP Strategy is not only useful for Multinationals, but it can also be used by SMEs

Practice makes progress possible

Nothing has ever been achieved by the person who says it can't be done

Thank you
for your attention!
Questions?