

# How to value IP and other intangible assets

## Our powertrains drive a sustainable world!

- Independent dynamic leader of innovative transmission and propulsion systems for automotive OEMs and mobility providers globally
- **50 years** of expertise in manufacturing of transmissions
- Highly flexible range of sustainable and affordable solutions for combustion, hybrid and electric vehicles
- Extensive system expertise and innovation power



Be the global agile partner of choice for innovative, affordable and sustainable powertrain solutions.



Continuously expanding our global reach  
to support customers in their local markets

1.800

employees<sup>(1)</sup>

10

Locations worldwide

Netherlands  
Eindhoven



Belgium  
Sint-Truiden



France  
Clermont-Ferrand



France  
Metz (JV)



Germany  
Flechthorff



India  
Pune



Nanjing  
China



Ningbo  
China



Subang Jaya  
Malaysia



Research &  
Development



Manufacturing



Sales & Services

(1): on December 31, 2021

(2): Manufacturing option available through affiliate company ARC

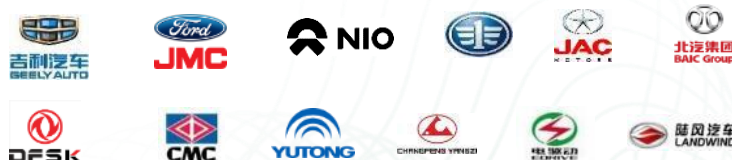
## Worldwide market access

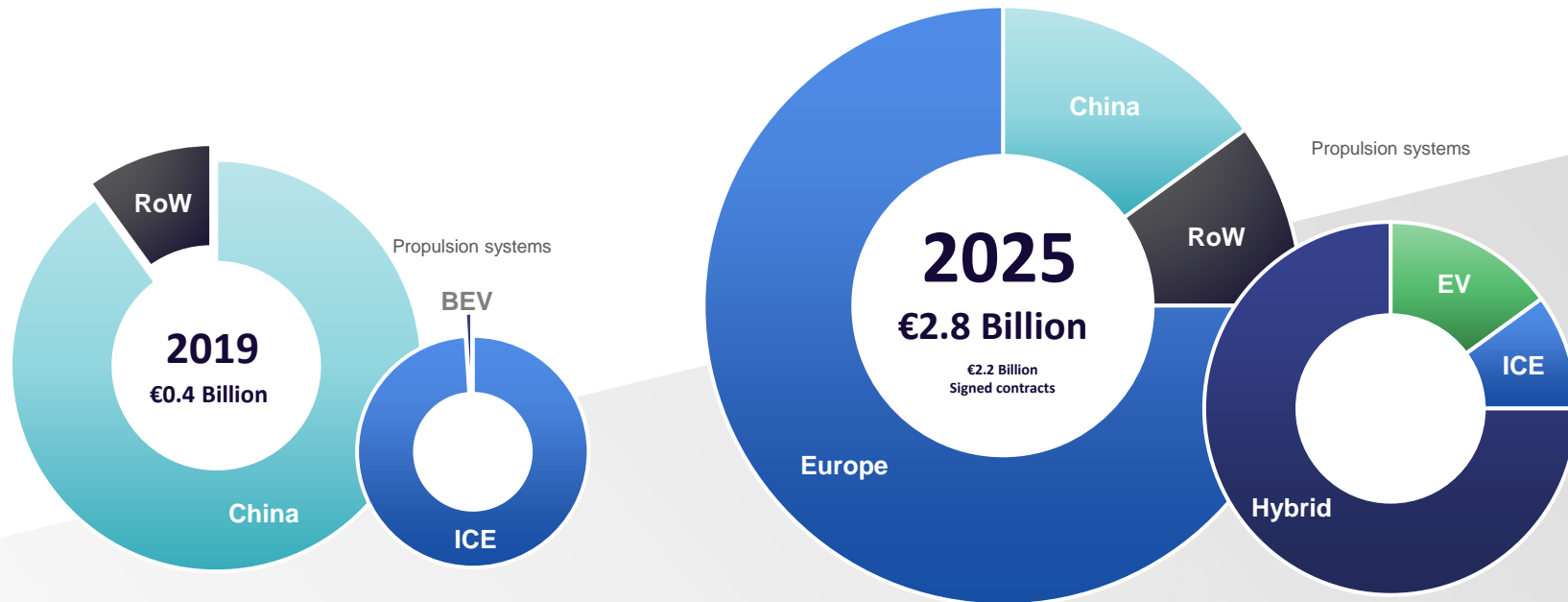
### Selected customers and partners

#### Worldwide



#### Greater China





We deliver ICE, Hybrid and EV transmission or propulsion solutions to global OEMs, substantially expanding our portfolio in terms of technologies and global reach

- How to value IP
- How to monetize IP?
- Monetization process?
- Four basic approaches to value IP
- What IP to monetize?
- How to calculate the value?

# How to value IP





$$= \frac{\binom{n}{k} a^k b^{n-k}}{(k+1) \cdot k! \cdot (n-k)!} + \frac{n! \cdot (n-k)}{(k+1)! \cdot (n-k-1)!} \\
= \frac{\binom{n}{k} a^k b^{n-k}}{(k+1) \cdot n!} + b \left( \sum_{j=k+1}^n \frac{\binom{n}{j} a^j b^{n-j}}{n! \cdot (n-k)} \right) \\
= \frac{(k+1)! \cdot (n-k)!}{(k+1) \cdot n!} + \sum_{k=0}^n \binom{n}{k} a^k b^{n-k} \\
= \frac{(k+1)! \cdot (n-k)!}{n!} + \sum_{k=0}^n \binom{n}{k} a^k b^{n-k}$$

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# How to monetize IP?



- Selling IP\*
- Licensing IP\*
- Tax optimization of IP revenues (less tax on gross margins)
- Pledging IP (e.g. to banks)
- Combinations of above

*\*IP= e.g. patents, utility models, designs, knowhow, trade secrets, trademarks*

- Infringement on proprietary IP and/or applied
- Strategic IP for companies (e.g. to prevent block others for developing alternative concepts)
- Market potential + IP\* protected PoC\*\*

*\*IP= e.g. patents, utility models, designs, knowhow, trade secrets, trademarks*

*\*\* PoC=Proof of Concept*



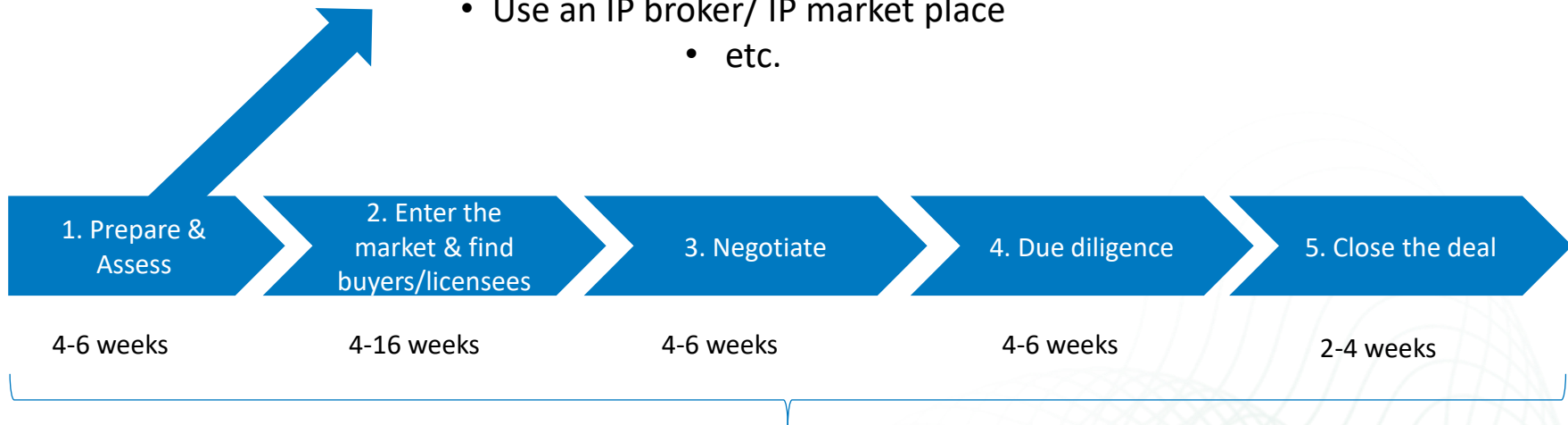
## Monetization opportunities determined by:

- Market size/potential (and in which countries)
- market potential of product/process
- IP value
- IP culture amongst competition

- By ourselves
- Using a full process partner (from IP valuation until the deal)
- Using an IP broker (for negotiating a deal)
- Via an online IP market place

# Monetization process?

- IP valuation
  - Patent & market research
- Identification of potential buyers/licensees/infringers of IP
  - Determination of chances for getting a deal
- Strategy for finding & approaching potential licensees/sellers
  - Patent monetization plan
  - Use an IP broker/ IP market place
  - etc.



Lead time → 18-40 weeks



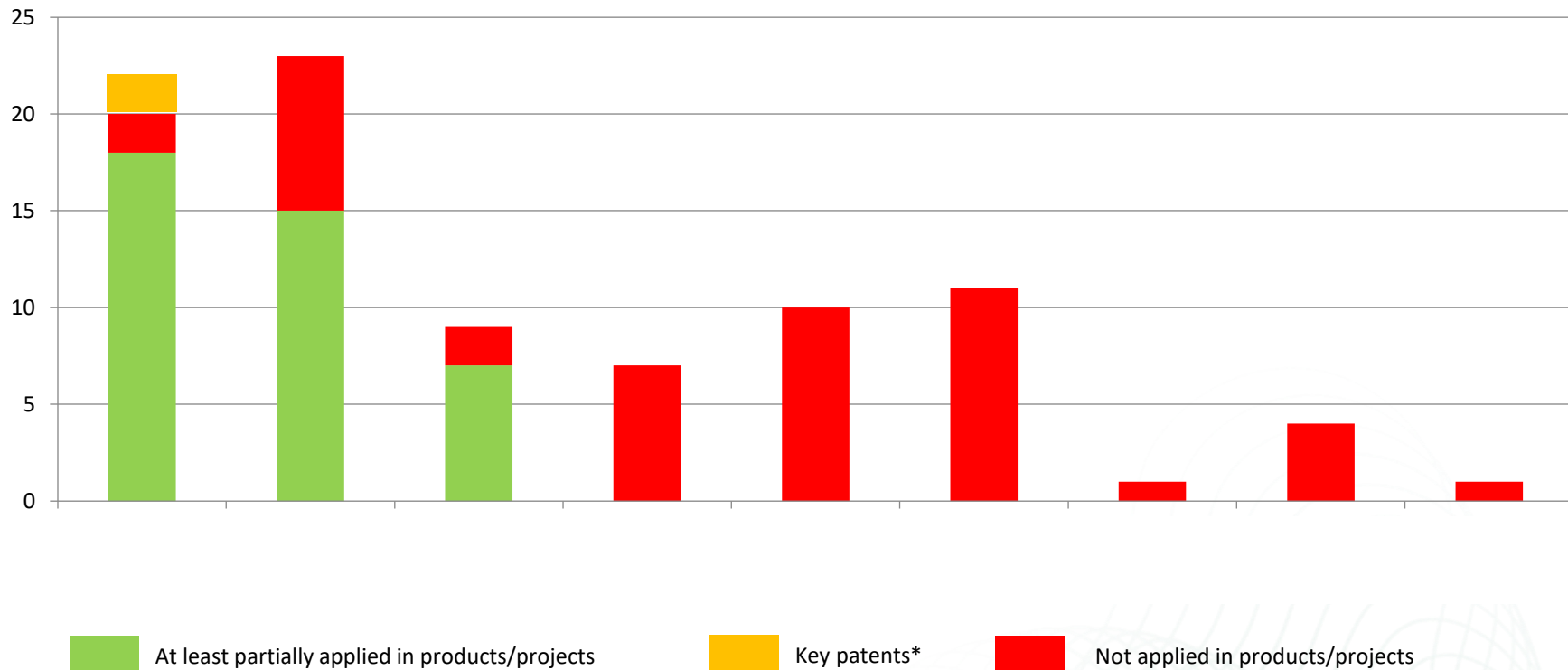
# What IP to monetize?

## Where is our monetizable IP?

- Non applied patents (+ know how)
- Applied patents (+know how)
- Trade secrets + patents with respect to CVT & HCY assembly + manufacturing

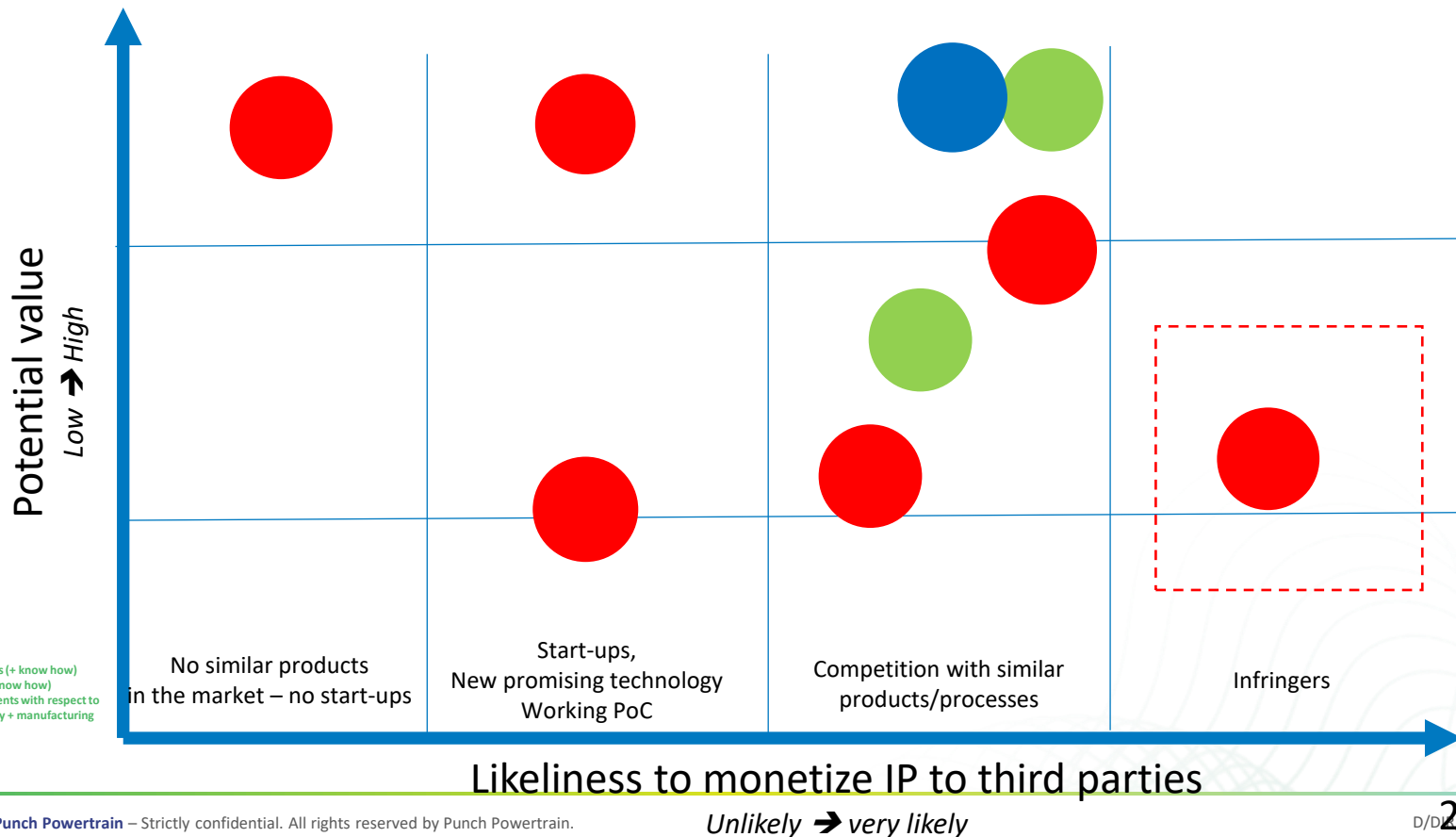
## IP monetization opportunities





# IP monetization opportunities

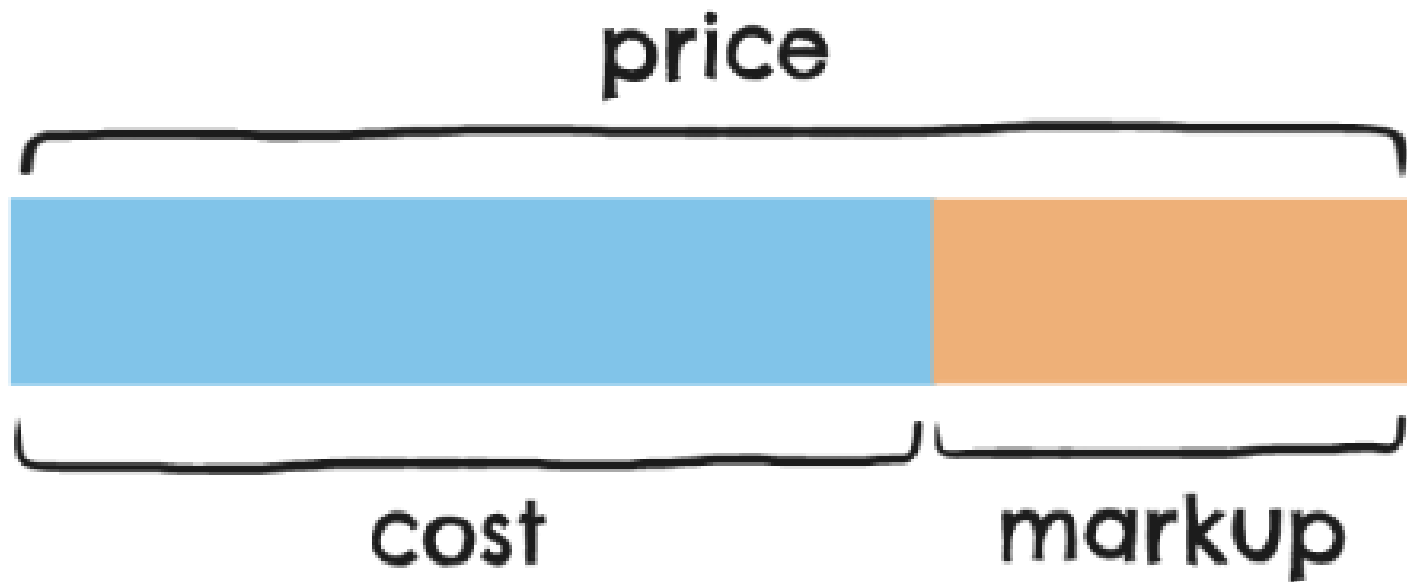
## Potential value vs likeliness to monetize IP





## Four basic approaches to value IP









# How to calculate the value?



$$PV = \sum_t^T \frac{E_t - A_t}{(1 + WACC)^t}$$

$$V_t = E_t - A_t$$

$$E_t = U_t \cdot VA \cdot L_B \cdot \lambda_H \cdot \lambda_N$$

### Formal definition:

Weighted Average Cost of Capital (WACC) is used as a discount rate (r) as the cost of financing (capital).

PV : Patent value,  
t : Time period until end of usage [T],  
E : IP related income,  
A : IP related spending  
i : Risk free interest  
z : Risk premium  
V: IP related profits  
WACC=i+z

U<sub>t</sub> : Turnover of related product/process as underlying  
VA : Value-added factor of the protected aspect of the entire product, reference  
L<sub>B</sub> : Basic royalty rate  
λ<sub>H</sub> : Royalty increasing factors  
λ<sub>N</sub> : Royalty decreasing factors

With λ<sub>H</sub> x λ<sub>N</sub> as the product of the single value influencing factors

t=10 years

A = 600k in 10 years

U<sub>t</sub> = Discounted cashflow (with interest rate of 10%) – market data

VA= 0,58

LB=15%

λ<sub>H</sub>= -

λ<sub>N</sub>= -

Et=(116M\*0,58\*0,15)=10M – all volumes

Et=(1620M\*0,58\*0,15)=141 – all product X volumes

At=600k

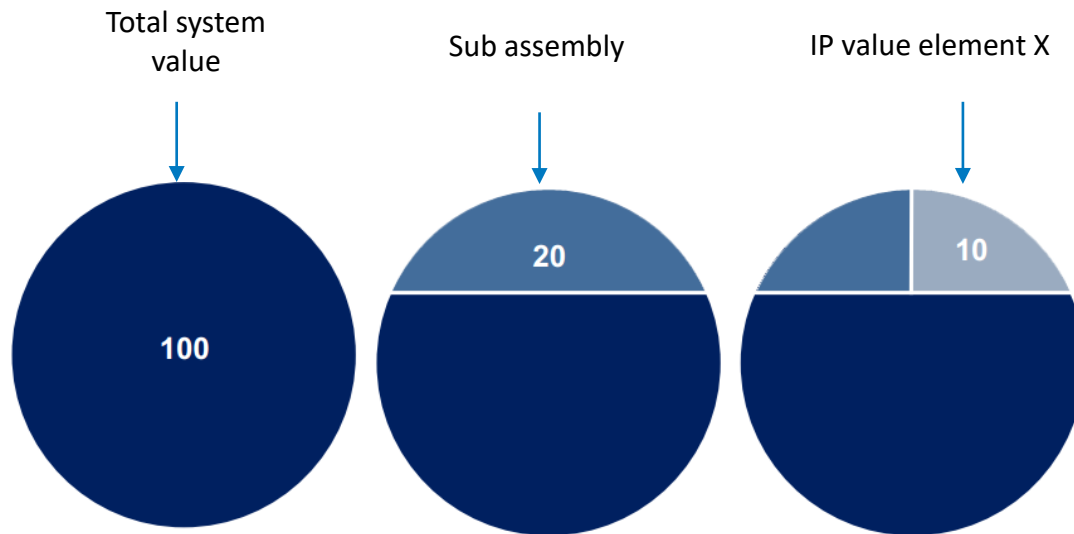
WACC of company X = 4,32%\*

PV=(6,7-0,6)/(1+0,0432)=6,2M - all Company Y volumes

PV=(141-0,6)/(1+0,0432)=92M - all Product X volumes

## Based on DIN 77100

- Market based approach
- Methodology simplified to a certain extend



$$\text{PATENT VALUE} = \text{DISCOUNTED CASHFLOW} * \text{ROYALTY RATE} * \text{VALUATION (RISK) FACTOR}$$
$$\text{5,1 Million} = 116 \text{ Million} * 0,15 * 0,25 * 0,58$$

### Assumptions

- Discounted cashflow = Interest rate of 10% used. Determined on approx. 200 Million (based on Product X sales between 2020-20230).
- Royalty rate= 25% of net margin (turnover – costs)
- Net Margin = 15% of turnover
- Valuation factor = 0,5 (risk factor based Due Dilligence of IP)

### VALUATION (RISK) FACTOR

Legal risk	Default Risk factor	Applied?	Actual risk factor
1 Status of patents	5	Yes	5
2 contracts	10	Yes	10
3 Patentability/Invalidity	38	Yes	38
4 FTO	20	Yes/No	10
5 Scope	7	Yes	7
6 Circumvention/breadth	50	No	0
7 Detectability/enforcability	15	Yes	15
sum	145		0,586207



THIS WAY

THE OTHER WAY

THAT WAY



# Thank you

[www.punchpowertrain.com](http://www.punchpowertrain.com)