

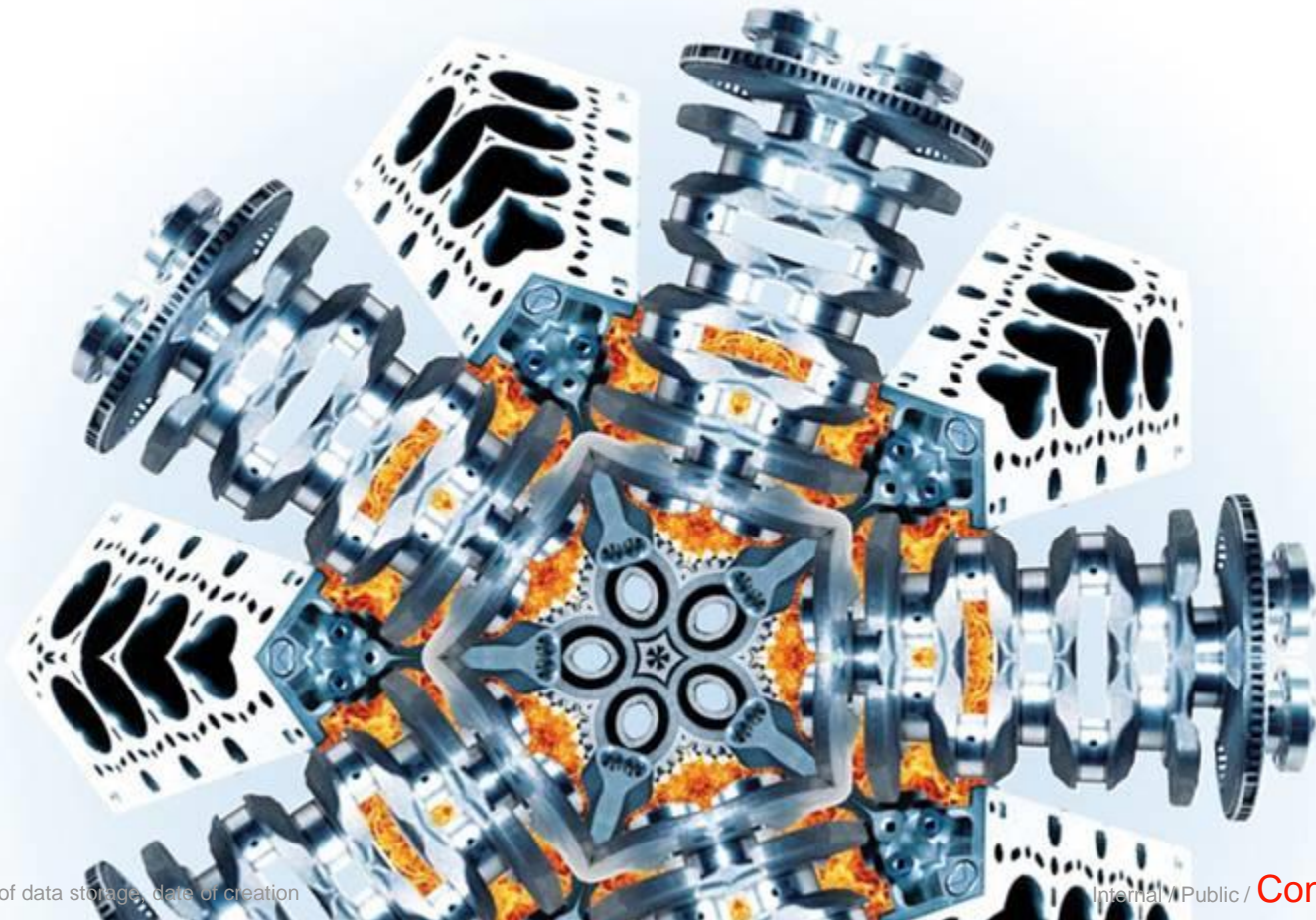


AVL

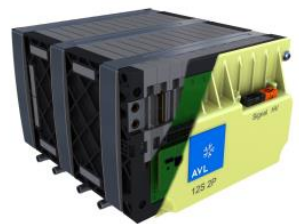
Securing a place in the Global Supply Chain

Richard Tamba

March-2014



The Five Main Elements of the Modern Powertrain Optimization by Functional Integration



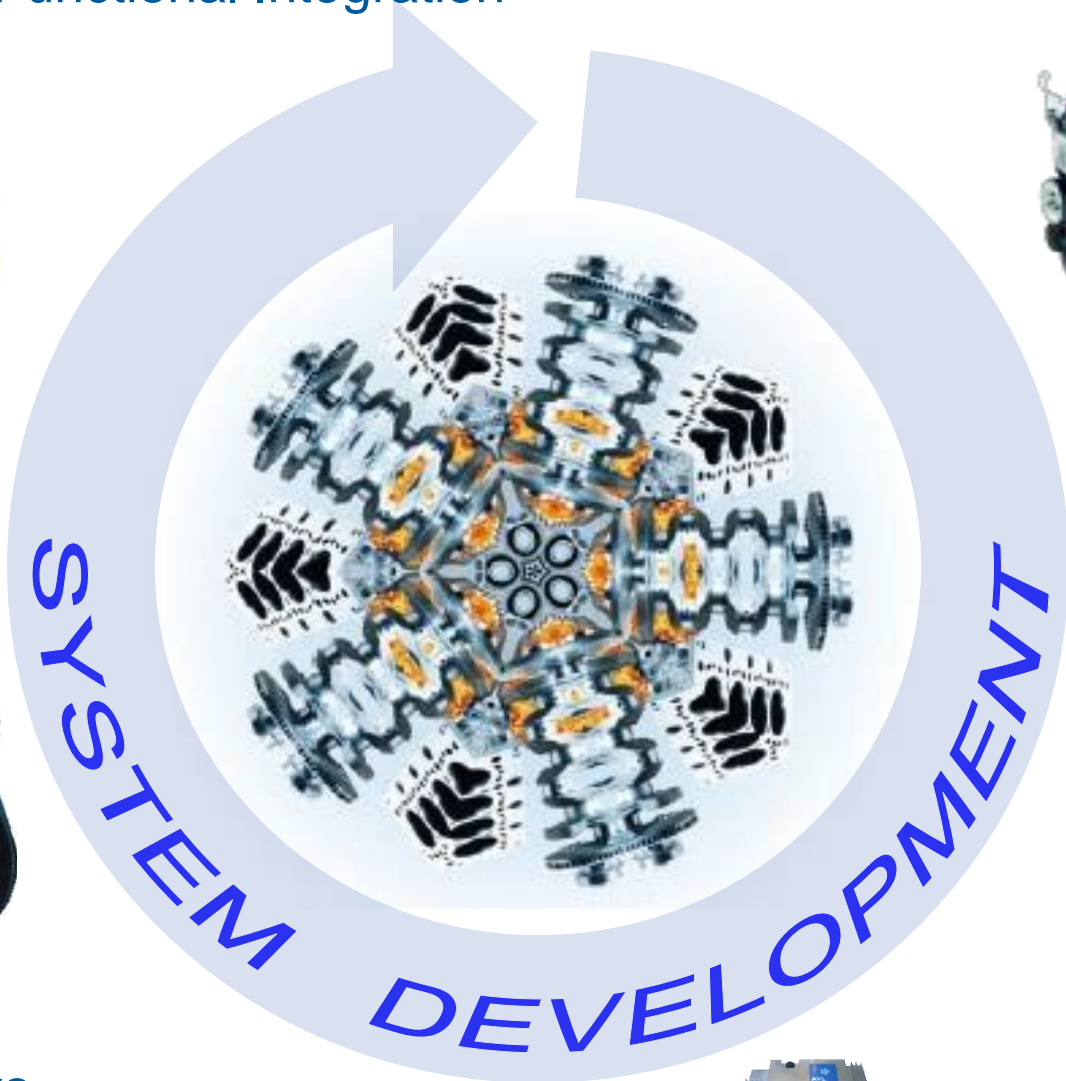
Battery



IC Engine



Electric Drive

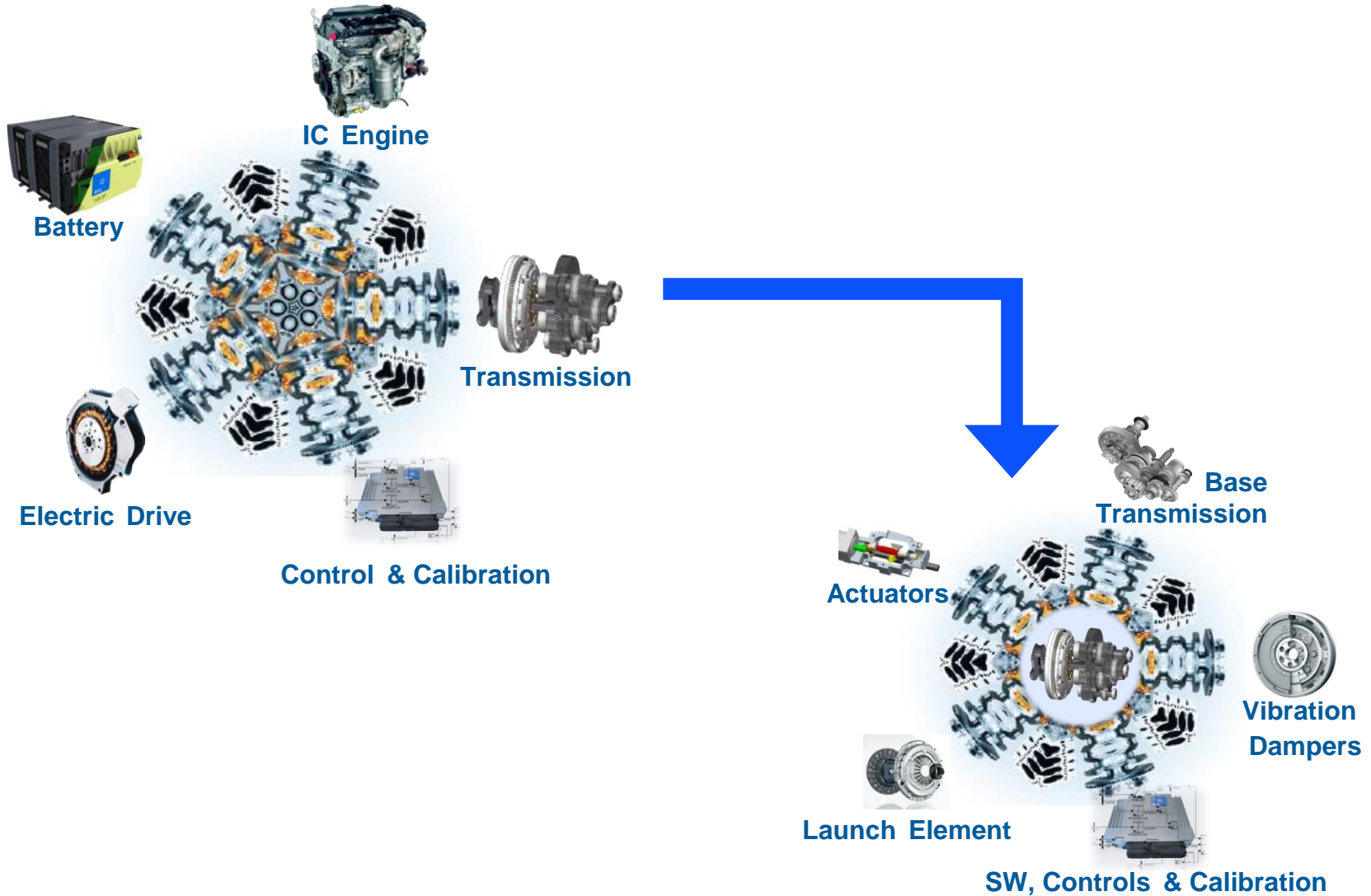


Transmission

Control & Calibration



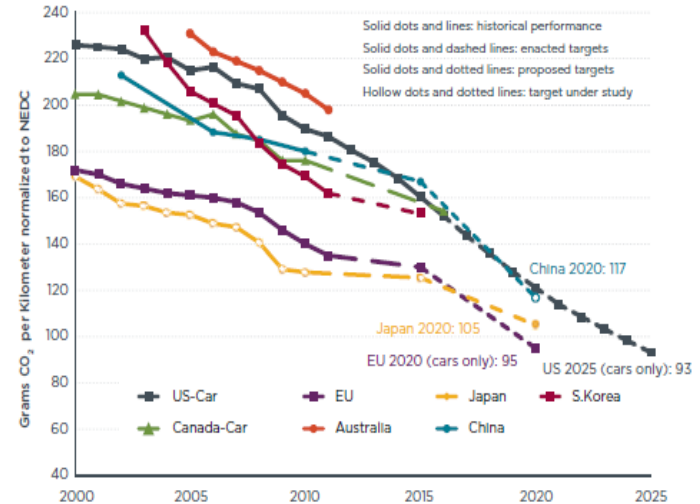
The Five Main Elements of the Modern Powertrain are built on core AVL competence in the subsystems



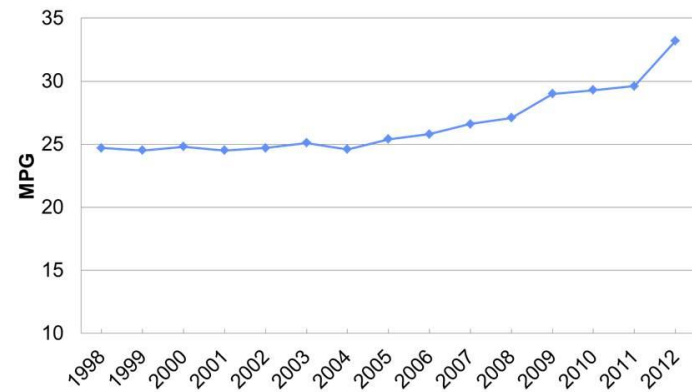
Key Market Drivers

- FE and CO2 Regulations
- Globalization of Powertrain Portfolios
- Expansion of Chinese Applications
- Emerging Markets Needs
- Market Competitiveness
- Economic Recovery
- Engine downsizing/boosting Strategies
- Diesel Programs
- Family Approach to powertrains
- Electrification protection (Integrated and Modular)

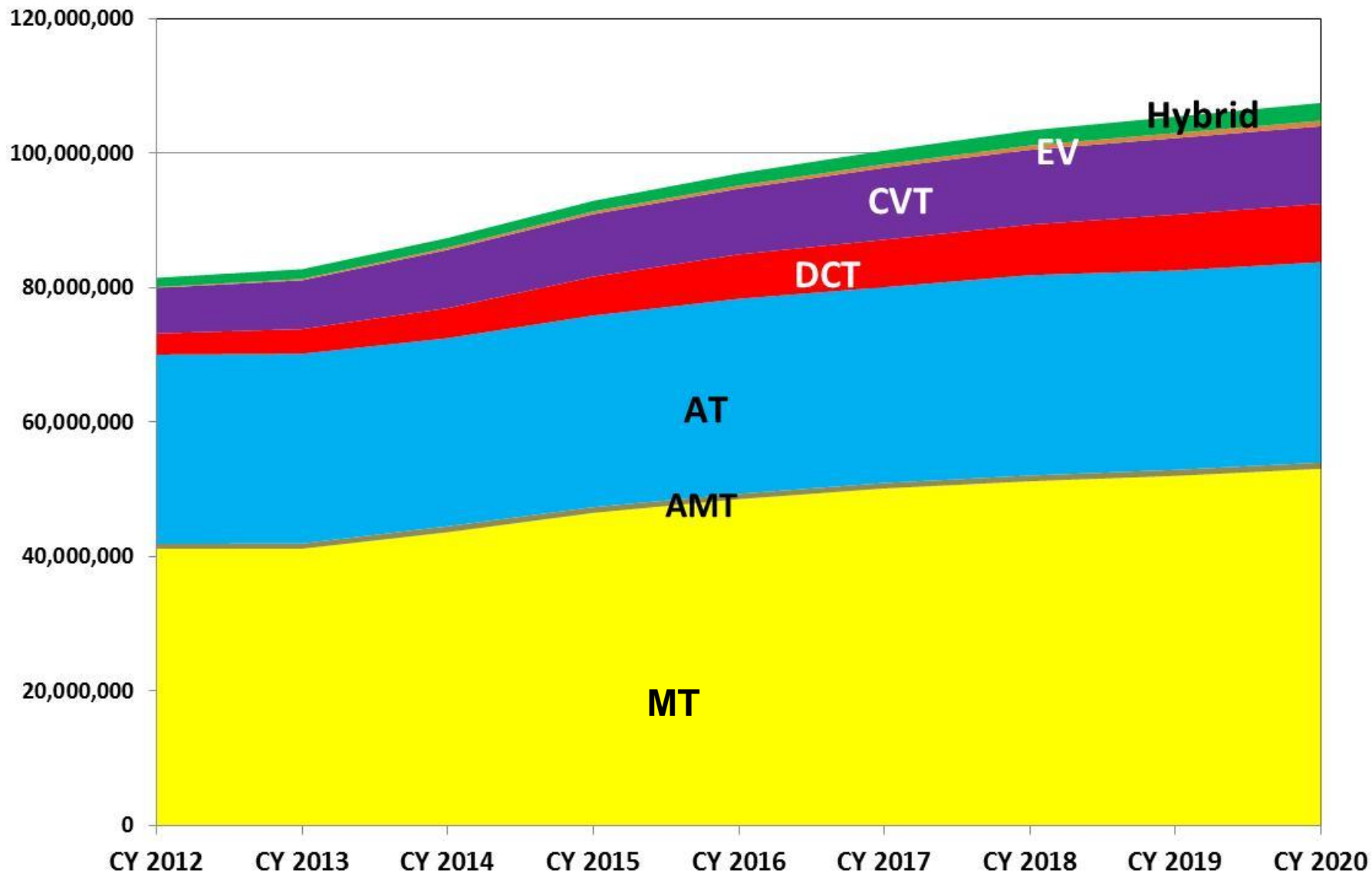
Global CO2 Standards



NA CAFÉ Fleet



Global PC Vehicle Types and Volumes

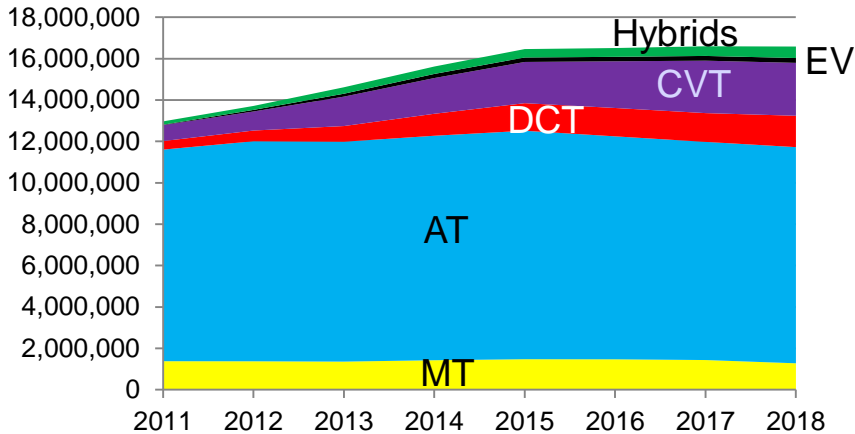


Full Hybrid and EV penetration is less than 3% , FE/CO2 regulations must be met by Conven. PTs

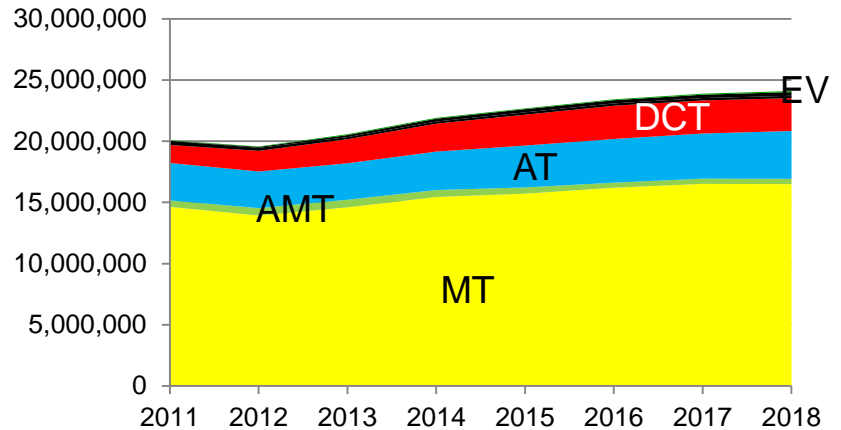
Local Market PC Types and Volumes



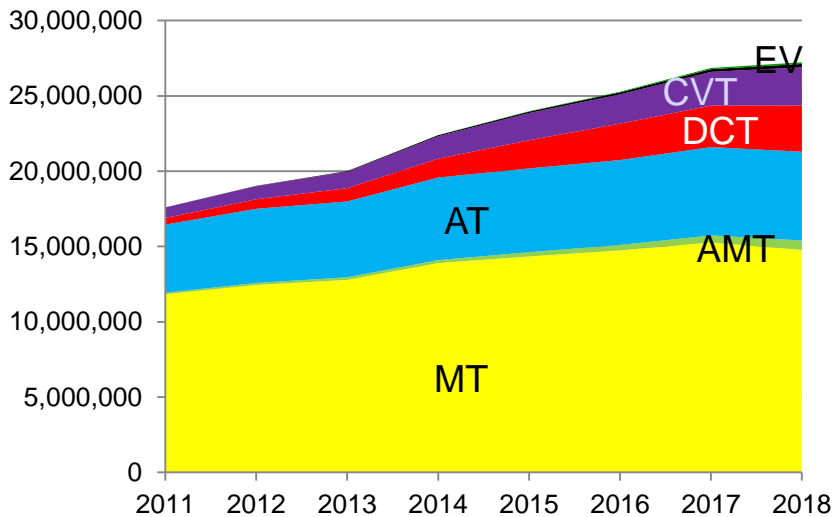
North America



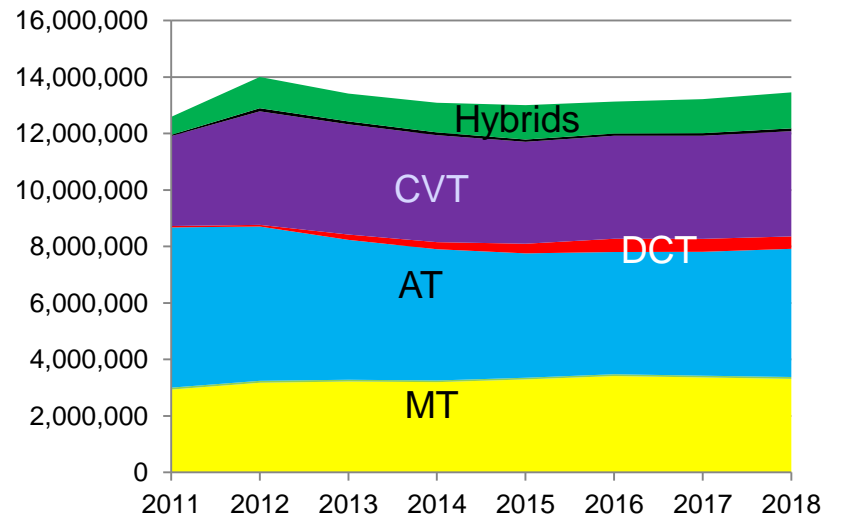
Europe



China



Japan Korea



Source: IHS 11-2011

DCT, CVT & MT volumes are increasing in China, CVT penetration is increasing in NA

What is your Business?



- Business cycles, what are yours?
- What are your products?
- Business/marketing plan?, when did you last review yours?
- Working on the business vs working in the business
- Follow up and contact the customer even if things are good
- Get to know PA's and people at the front door
- Market your products/services
- Study your competitors but don't necessarily follow them



What is your Business? (continued)

- Invest in technology
- Be a partner rather than a supplier
- What can you do on your own and what could you do if you partnered with another entity?;
 - Technology
 - Market penetration
 - People
 - Skills
 - M&A
- University relationship?

Searching for opportunity

- Attend trade shows and Industry Conferences
- Identify the key market drivers and where the action is
 - Technology
 - Markets
- What are your competitors doing?
- What funding is available?
 - Grants
 - CRC funding
 - other
- Watch the business and watch the customer
- Listen to the customer & Understand their needs, quote what they ask for!

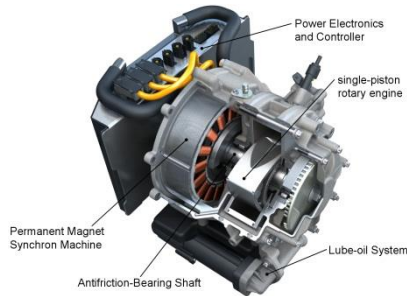


Searching for opportunity (continued)



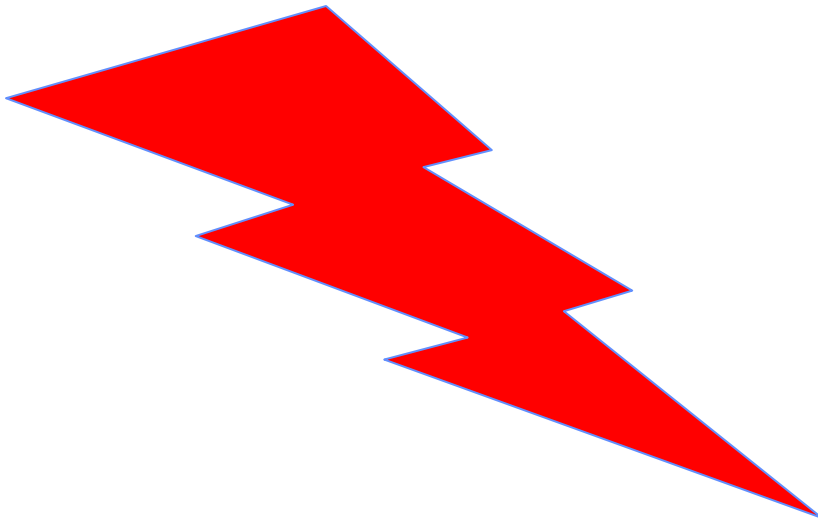
- Be proud of what you do and have your elevator pitch ready
- Be prepared for lean times whilst chasing new opportunities
- Always act professionally and maintain confidentiality
- Do quality work, but make sure you make money out of it !
- Invest in IP
- Senior people need to turn up, especially in ASEA
- Understand the local culture

Creating opportunity

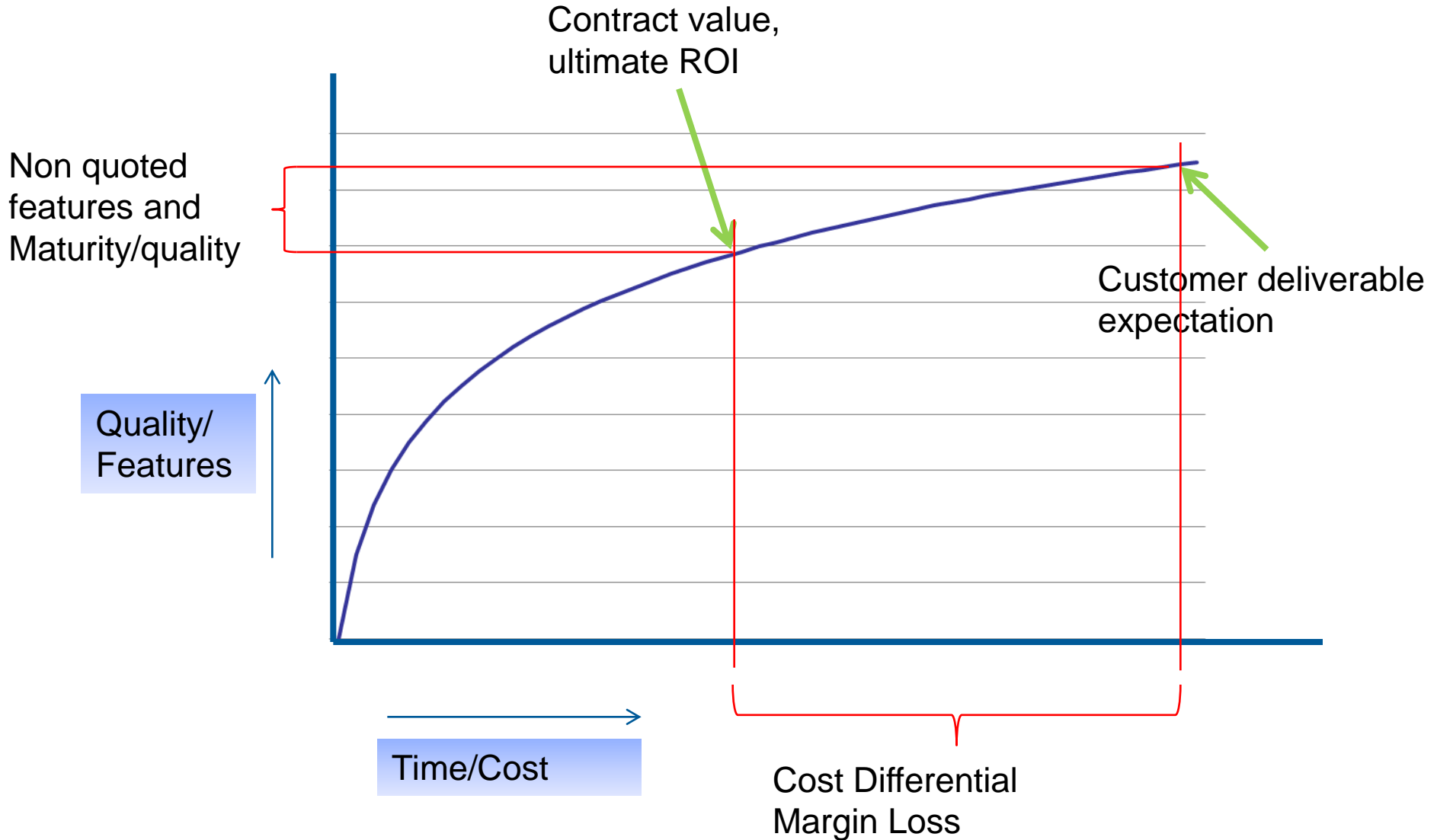


- Nurture IP Internally (sand pit sessions etc)
- Ensure that at the end of every project you have a saleable product
- Products can be physical, IP based or royalty based
- Protect your innovation
- Become recognized as an industry leader
- Develop internal products to become the industry standard
- Form strategic alliances with strong contracts
- Attend and display at Trade shows and identify potential customers
- Stage a technology showcase and open day (high value)
- Identify the difference between a “customer” and a “partner”
- Write technical info-articles in publications (patents first!!!)
- Have a good product mix (ie: work for hire, licensing, products)
- Can you resell your current IP into another Field?
- Invest in your people

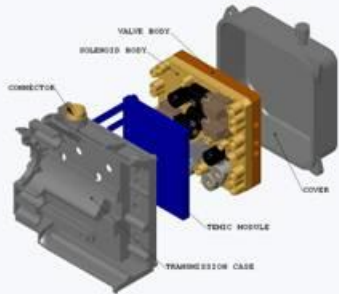
Innovation needs a Process



Make money twice?



The traps



- Industry rumours vs facts
- If it's not in the bank, don't spend it!
- Check if it is patentable before presenting ideas and concepts (patent pending is cheap)
- Be prepared to negotiate
- Asian companies and the last 5-10%
- Bullying tactics, be prepared to walk away
- Sleep on it before making big decisions



The traps!

- What would the customer want, do, think?
- What would your competitors want, do, think?
- What if?
- Don't put all your eggs in one basket (have many products and customers)
- Understand and work on your weaknesses
- Don't underestimate the value of your services
- Learning by association, watch out
- Negotiate !

What do you have to offer?

It does not need to be a physical product

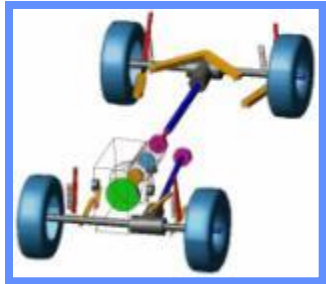


- Intellectual Property
 - Licensed
 - Manufactured
 - Included in another product
 - Sold
- Physical
- Services
- Processes
- People
- etc

Now you have it, what next?

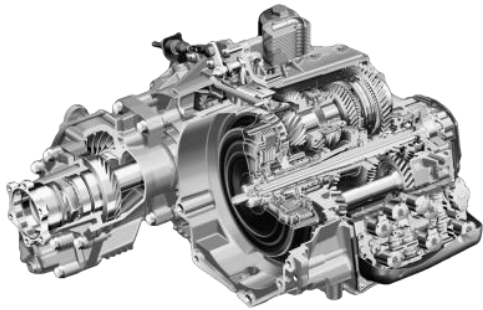


Commercialising the Innovation



- Choose customers/partners carefully
- Have sunset clauses in contracts if licensing a product to be manufactured
 - If it can't be made by the customer/partner
 - If they don't use the license within X period
 - Include a minimum royalty fee yearly regardless of volumes
- Limit the license to;
 - regions (countries),
 - applications (automotive, marine, etc)
 - classifications (vehicle size, weight, usage, on-road, off-road, Military)
 - Exclusivity
- And make sure you remain the owner of the Innovation, or that it reverts back to you if the partner fails
- Make it yourself

Remember



- 80% of wining business is turning up!
- Keep customers close
- Leverage off existing customers
- Have good contracts
- Make the plan and stick to the plan
- Learn from the past, but don't look back
- Evaluate all opportunities financially
- Set your goals and focus
- Trust your instincts
- Look to other fields for application of your IP
- Follow the process!

Thank you!