



## UK Automotive Industry..... .....sunset or sunrise?

Jon King, Director, Corus Automotive Engineering  
Automotive World Conference @ IMechE  
30 October 2007



### Sunset or sunrise?

- Roll over and die
  - New technology and innovation will save us?
- Not a chance
  - Greenfield economies can do it better and faster



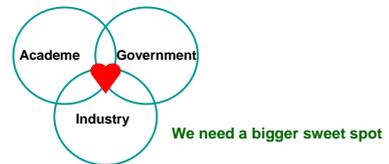
## Steel – last year’s material..... .....or part of the solution?

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- Balance technology and innovation across both existing and new areas of UK competence
  - Identify 'core' areas to provide focus
  - Bring industry and academe together
  - Put easier funding routes in place

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Wouldn't it be nice??????



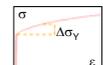
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## "Forming to" technologies (F2x)

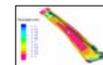
### Forming influences...



Material Strength



Component Shape



Material Thickness

These factors influence structural performance, particularly for AHSS

Corus has developed a range of F2x technologies...

- F2C® Forming to Crash
- F2F® Forming to Fatigue
- F2S® Forming to Strength

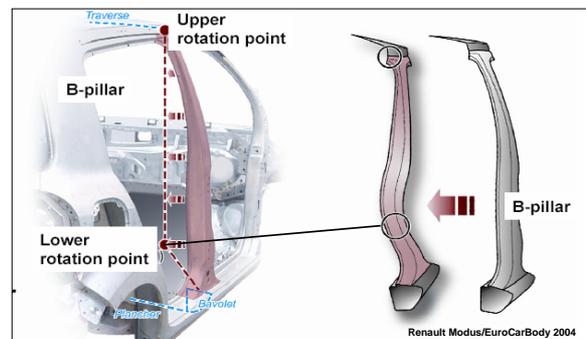


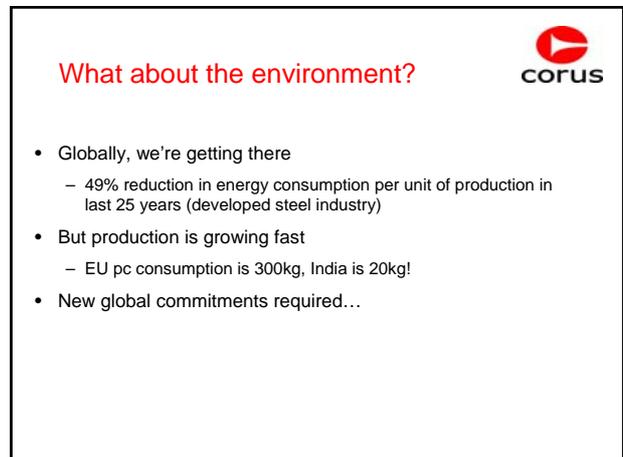
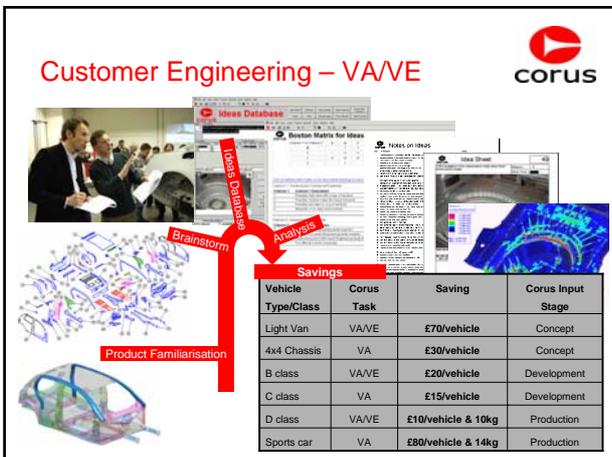
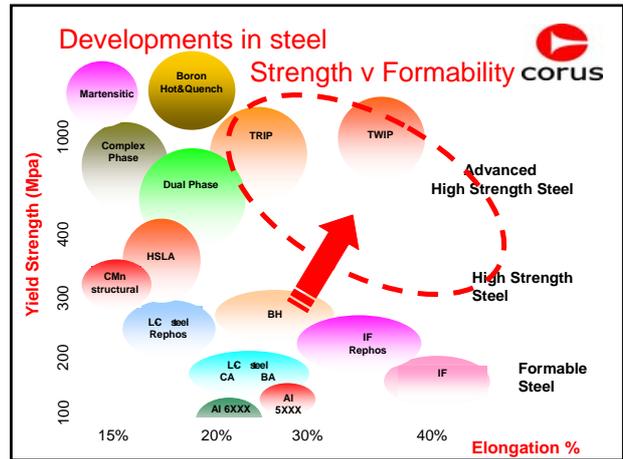
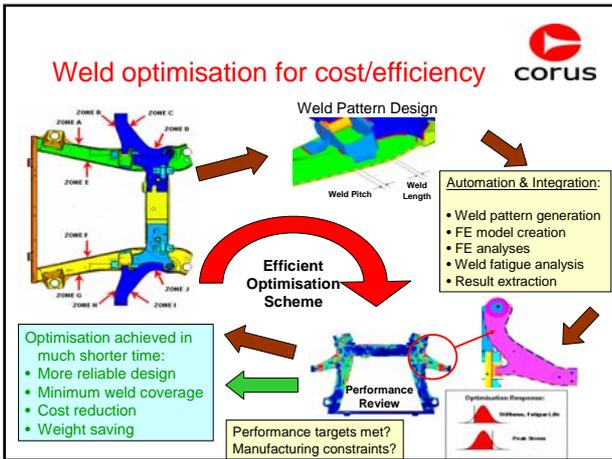
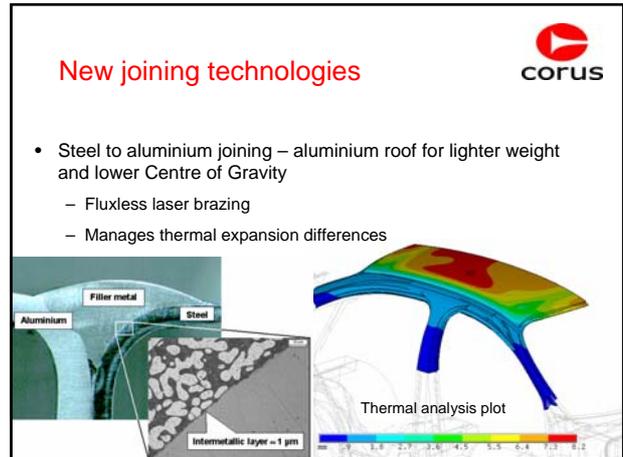
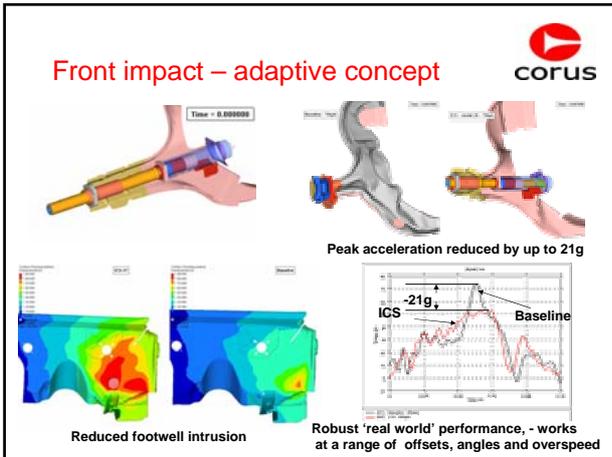
## Last year's material – fantastic!

- Steel **is** last year's material
  - Last year, 99% of new cars had steel body structures
    - 0.5% had hybrid aluminium/steel body structures
    - 0.4% had aluminium body structures
    - 0.1% had composite body structures
- Steel is also **next year's material**, and will continue to be, provided it continues to tick the right boxes
- Steel **is** part of the solution



## Side Impact – 5 Star safety achieved only using Ultra High Strength Steel





## IISI global commitments



- Share best practice globally for low emissions steelmaking
- Research breakthrough CO2 reduction technology
- Optimise and maximise scrap recycling
- Maximise use of by-products
- Develop new steels to help our customers
- Develop and implement common/verified reporting systems
- Adopt a global approach to CO2 reduction

### But

- Needs government support for all of these to work – particularly to replace cap and trade schemes and encourage efficient expansion
- Needs customers to support – working in closer partnership

## Changing Patterns of Car Usage



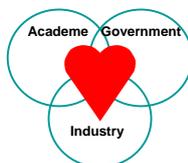
- Public transport cannot compete with personal mobility convenience, needs to evolve
  - Flexible pick up and drop off
  - Comfortable bus stops with real time info
  - Accommodates electric bikes/wheelchairs
- Hiring/sharing schemes - commute in an economy car, weekend in a lifestyle car(s)
- Once the (currently suggested) 70mph speed limiter for motorbikes becomes acceptable, apply to all motor vehicles
  - Older cars will hold a premium until modified to comply
  - Stored power then becomes the market differentiator = 'performance hybrids'



## Wouldn't it be nice.....



.....if the UK automotive industry already had most of the answers?



Let's assume we can fix this bit

## Changing Consumer Demands



- Market fragmentation will continue – highly profitable niche products that we didn't realise we couldn't live without
- Volatile/unpredictable demand is best suited to the platform engineering concept with reduced risk of lost investment
- Cost of fuel will continue to rise faster than inflation, we will start to choose a vehicle based on the lifetime ownership cost
- Lifestyle driven styling will drive more innovation, especially in interior design and materials
- Competing hybrid designs and alternative fuels will eventually rationalise



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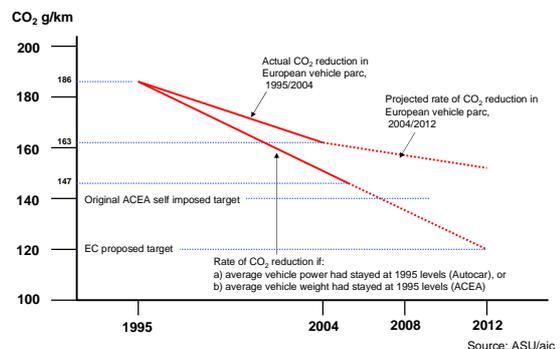


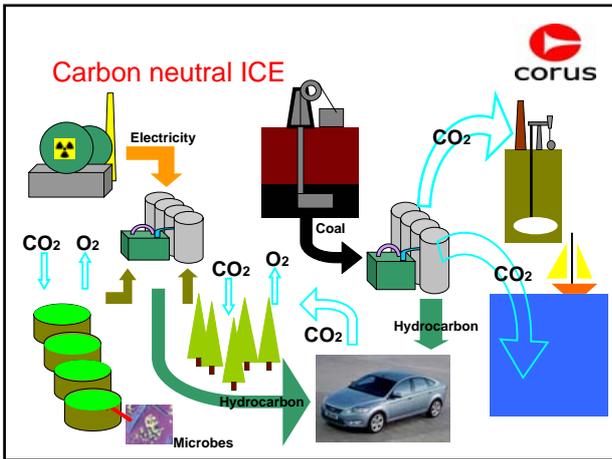
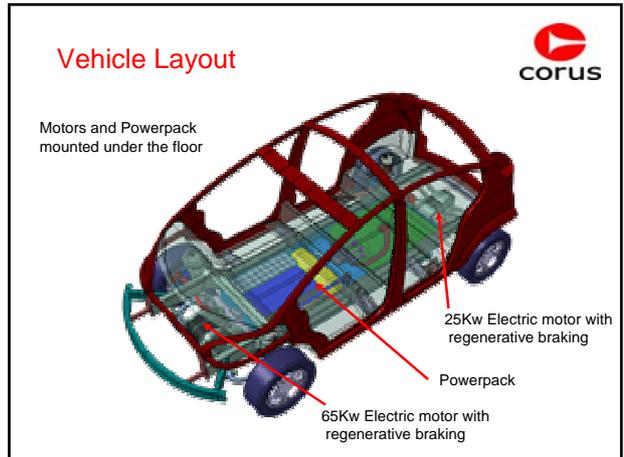
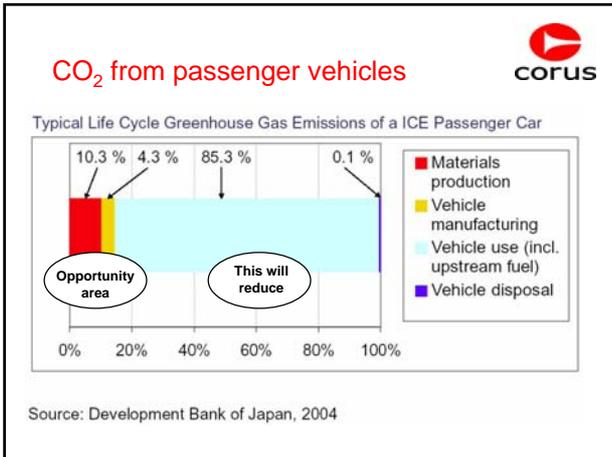
.....if the UK automotive industry already had most of the answers?

- We're good at technology and manufacturing
  - Transplant vehicles
  - Premium and niche
  - Light/heavy commercial
  - Buses and taxis
  - Powertrain
  - Electronics
  - Electric vehicles
  - Future powertrain
  - The environment

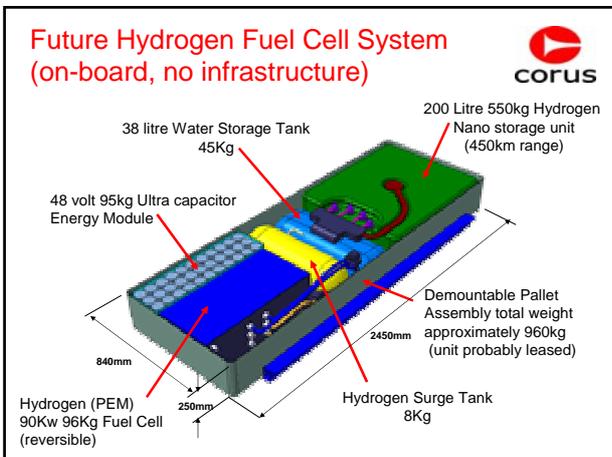
Many of these are a perfect fit with future trends

## Europe – CO<sub>2</sub> target missed





- ### Plenty of opportunity
- Transport solutions for the future
    - Radical approach to public/personalised transport (trains, trams, buses, taxis, trikes, bikes and Segways)
    - Understand first and last mile (and everything in between)
  - More volume niche manufacturing for the above
    - Coachbuilders sharing high-tech, affordable platforms
    - Use volume techniques (Nissan 'secrets')
  - 'Premium economy' for affluent Europeans
  - Hydrogen economy without the infrastructure



- ### How?
- All the small business start-ups in the world won't save UK plc if we let go of fundamental manufacturing excellence
    - New technology and innovation is not enough on its own
  - We are already good at many things – innovation will help us maintain a leading position. The technology exists, it's
    - Knowing about it
    - Deploying it
  - New and improved technology, products and manufacturing methods
    - Share IP, it's the only way to exploit it
    - Partnership and collaboration throughout the technology and manufacturing supply chains
    - Improve the way we do collaborative research

