



Half-year results to 30 Sept. 2010

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Overview

Highlights

- Results in line with expectations and a strong level of cash
- Increasing investment by customers and licensees in prototype and production-intent programmes
 - first two prototype commercial vehicle transmissions installed in vehicles
 - surpassing expectations
- Flywheel Energy Storage technology creating significant industry interest and opportunity
- New technology for CO₂ reduction – variable drive superchargers – progressing rapidly towards prototype
- Infinitrak to be restructured – technology further developed



Financials

Headline financials

	Unaudited 6 months to 30.9.2010 £000	Unaudited 6 months to 30.9.2009 £000	Audited 12 months to 31.3.2010 £000
Revenue	2,003	1,412	7,644
Gross profit	1,548	945	7,099
(Loss) / profit after tax	(1,803)	(2,081)	387
Cash outflow	(3,129)	(2,683)	(1,902)
Cash at period end	9,963	12,304	13,092

- Revenue increase driven by
 - high activity in our two key commercial vehicle programmes
 - engineering revenues up 90% to £1.3m
- Gross profit increase of 64% to £1.5m offset by development costs of £2.5m
- Focus on cash - £10.0m at period end

Financial drivers

- Operating costs and investment
 - c.£7.5m annualised cash costs
 - currently supporting high development
 - falling trend in costs as technology commercialised
 - new development to be matched with opportunities
- Engineering fees
 - historical gross contribution of c.£1m to £1.5m
- Commercial vehicle income profile
 - c.£3m+ p.a. for two years assuming Allison renews in March 2011
 - royalties expected in 4 to 5 years once in production
- Other licensing opportunities
 - c.£20m over last 5 years delivered

Value drivers

- P&L not the key factor short to medium term
 - focus on cash resilience / generation
- Progress in commercial vehicles underpins base business valuation
- Other opportunities for Torotrak's technology are significant and diverse
- Our objective is simple
 - demonstrate moving along path of commercialisation in commercial vehicles
 - secure and advance one or more opportunities
 - tangible increase in prospects and Torotrak value

Infinitrak restructuring – non binding heads of agreement

- Re-focus on licensing opportunities with strategic manufacturing partner(s)
- JV replaced with royalty bearing and non exclusive licence to MTD
 - reduced field – from 45kw to 25kw and restricted to lawn & garden
 - Torotrak retains all remaining rights in OPE to develop when appropriate
- Financial impact
 - share of JV sales no longer consolidated
 - no funding of capex
- Overall – positive impact to cash flows short to medium term



Key Driver - Legislation

Impact of Legislation

Legislative change is driving the requirement for new technologies

Passenger Cars

- EU: OEM fleet average CO₂ of 130g/km
 - 65% compliance by 2012
 - 100% compliance by 2015
 - for 2020, the target is 95g/km
- USA: 40% reduction by 2020 (lags Europe: target 186g/km)
- OEM's *need* solutions for 2015/16

Commercial Vehicles

- US: Newly proposed CO₂ legislation in 2014-18
 - Target improvement: 10-15% for light CVs
20% for medium and heavy CVs
- EU: Euro VI effective from 2013 but focused on harmful emissions – this will worsen fuel economy

Off-Highway

- Legislation focuses on harmful emissions, but solutions will worsen fuel economy



Business update

Commercial vehicles

Torotrak's primary area of focus

- Earned £12.6m in initial license payments to date from key licensees
- Allison
 - technology transfer now complete
 - first transmission in vehicle
 - expected to move to a production prototype in 2011
- ETBM
 - first transmission installed in vehicle – surpassing expectations
 - efficiency testing results in line with early predictions
 - ETBM requested full technology transfer programme

Commercial vehicles – main drive transmissions

US Standard Synchronised Manual



- ✓ Cheap
- ✗ Needs skill to deliver FE

Need for consistent FE: requires automation

European Standard Automated Manual



- ✓ Good FE - easy drive
- ✗ Multiple shifts

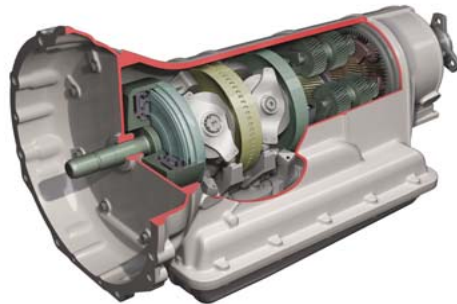
Need for competitive advantage and emissions improvement

US Standard Planetary Automatic



- ✓ Smooth: no skill
- ✗ Poor fuel economy

Need for FE and to protect and grow market share



- ✓ The *only* variable drive for CV's
- ✓ Unique: power *and* efficiency
- ✓ Optimum FE – lower operating costs
- ✓ Unmatched refinement – no skill required
- ✓ Improved emissions
- ✓ Cost: between AT and AMT

Engine downsizing – variable supercharging

The problem

- Smaller engines = greater efficiency but lower performance
- Current technology developments (turbo and supercharging) deliver “top-end” performance but are poor at low speed

Challenges & Torotrak approach

- No known variable drive new tech solutions
- Incumbent suppliers “stranglehold”?
- Twin pronged strategy:
 - Tier 1
 - low volume “seeding” the market

Our solution

- Smaller engines plus variable pressure charging = greater efficiency with performance restored
- Rotrak variable superchargers achieve this - at the right cost

Opportunity

- Pressure charging market forecast to grow to 26m units pa by 2015

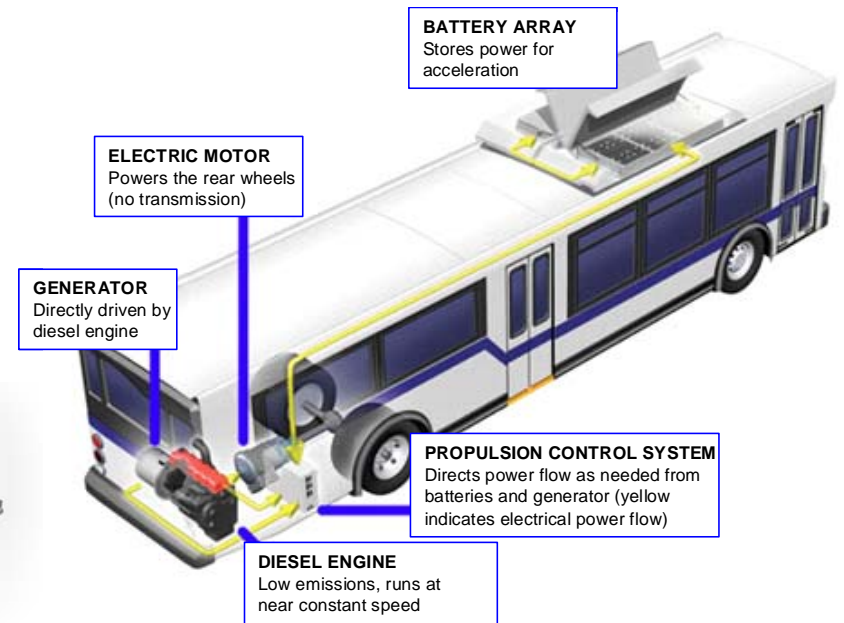
Energy recovery systems – flywheel hybrids

Mechanical hybrid



vs.

Electrical hybrid



Benefits

- Twice the efficiency
- Half the weight
- Half the volume
- A third of the cost (€/g/km)
- Potential for retrofit in commercial vehicles

3 consortium projects

- Flybus
- FHSPV (Jaguar)
- KinerStor (Ricardo)

Energy recovery systems – flywheel hybrids

- Flywheel hybrids are capable of delivering fuel economy gains at costs which support mass applications:

	Flywheel Hybrid		Generic Electric Hybrid	
	Power (kW)	€/g/km	Power (kW)	€/g/km
Small car	45	33	15	92
Premium car	100	41	35	87
Heavy truck	100	37	35	71

- Partnerships with **Ricardo** and **Flybrid Systems** – both engaged on prospective automotive OEM programmes

Source: Ricardo, Darmstadt Sept. 2010

Off highway and OPE

Targeting tractors and forklifts

- Key value drivers
 - improved fuel economy, and hence reduced operating costs
 - step improvement in controllability, and hence productivity
 - cost competitive
 - provides a new technology platform which is scalable
- Two active licensees – Carraro and Iseki

OPE

- Good progress in the UK of the traction epicyclic arrangement
- New generation transmission tested and complete in July
 - materially increases durability and service life
- Opportunities now to target wider strategic relationships - but not immediate priority



Strategic focus & Allison's options

Torotrak – market priorities and applications

Market

**Main-drive
Transmissions**

**Energy Saving
Devices**

**Commercial
Vehicles**

Active:
Trucks, Buses and Military
Vehicles

Active:
Flywheel hybrid systems

Automotive

Development:
Small cars and emerging
markets

Active:
Flywheel hybrid systems
Variable superchargers

Priority markets – customers, JVs & partners

Commercial Vehicle Key Licensees



European truck
& bus manufacturer

Mechanical Flywheel Hybrid partners



Variable Supercharger Partners



Global automotive
Tier 1: Undisclosed

Opportunities – beyond priority markets

- Licencing or commercial collaborations
 - main drive transmissions – tractors, fork lift trucks
 - outdoor power equipment
 - automotive - re-enter main drive transmission in following commercial vehicle success
 - current prospects include: OEMs; Tier 1s; emerging markets
- Strategic development of business
- Entirely new markets (current development not being applied):
 - examples include: rail, turbo-compounding, power generation

Allison's options

	FY 2011 or FY 2012	FY 2012 or FY 2013
No exercise of further rights	£0.00m	£0.00m
Two years of further exclusivity plus licence rights >14,000 kg field	£3.50m	£3.25m
Perpetual exclusivity rights including licence rights >14,000 kg field	£14.00m	£0.00m

- Allison - global market leader in automatic transmissions for the commercial market
- Invested in Torotrak since March 2009 (9% shareholding)
- Paid £8.4m for initial license rights for Torotrak technology into the medium truck segment in the US
- Key decision expected March 2011



Business outlook

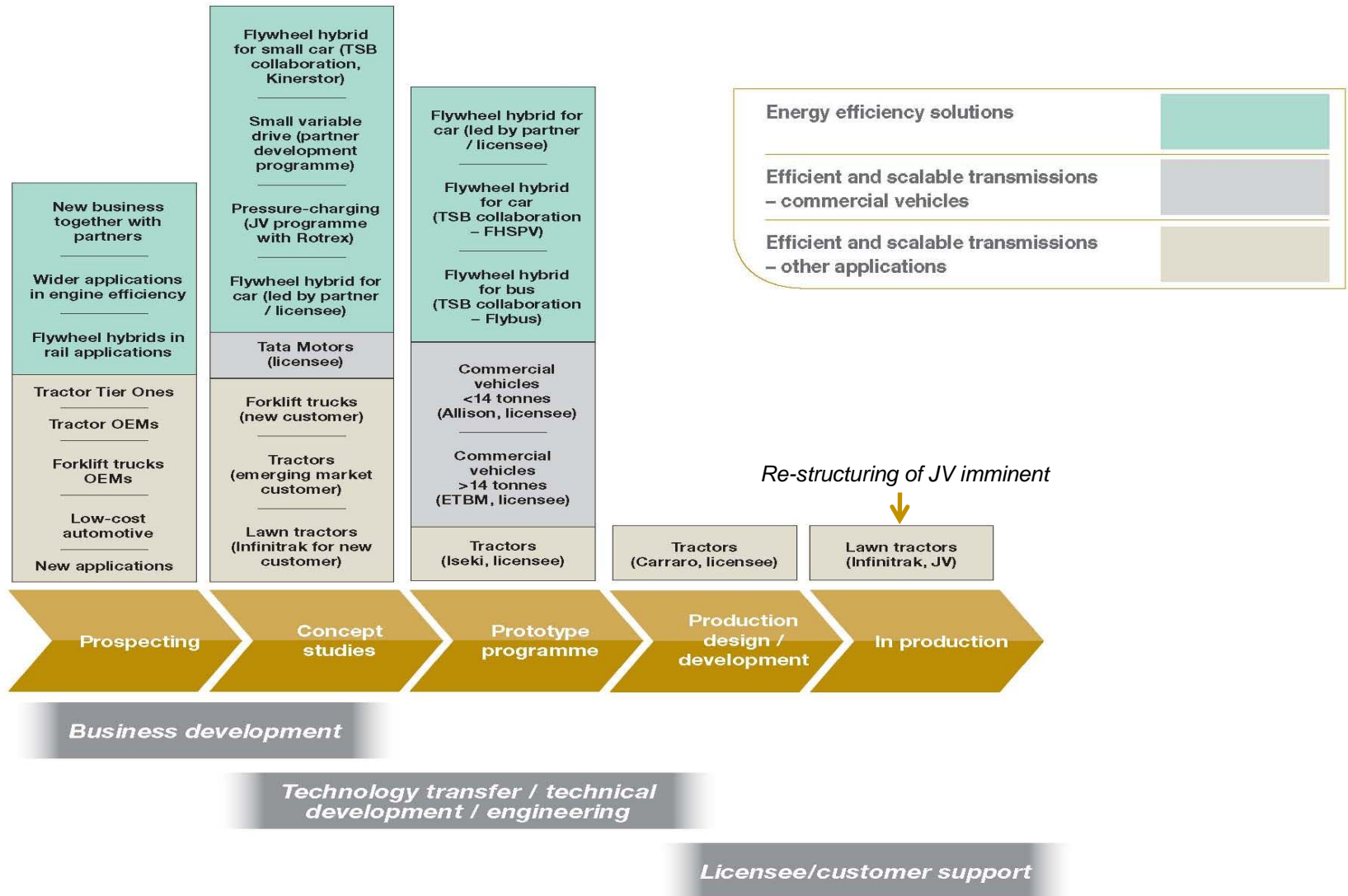
Summary

- Real confidence in progress to commercialisation with licensees
- Focussed on delivering the most material business opportunities
 - commercial vehicle transmissions into production
 - exploiting the huge opportunities in CO₂ reduction
- Key decision from Allison in March 2011
- Funding resilience



Questions?

Torotrak's drive to commercialisation



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