CLEPA Technology Day 2009

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Hydrostatic regenerative braking system


Bosch solutions for lower vehicle emissions.


TRW transparent display of cognitive safety systems.


View of AutoWorld Motor Museum where the CLEPA event was held.

Brussels - 11 February 2009

Words and photos by Pim van der Veer

The CLEPA Technology Day 2009 with themes:- "The car of tomorrow: Environment, Safety and Mobility for 2020" demonstrated in its third edition that automotive suppliers not only develop most of the new automotive technologies but are also key players in reducing CO2 emissions whilst, at the same time, innovating for safety and mobility.
CLEPA is the Voice of Automotive Suppliers in Europe.

ILIPT – 3DayCar
An important presentation at the conference - which was attended by more than 300 participants - was ILIPT, 'Intelligent Logistics for Innovative Product Technologies' with the ambitious goal of delivering a car 5 days after a customer has placed his order according to his own specifications. This scheme followed a collaborative research Programme in 1999, the 3DayCar, funded by the UK government (via the DTI, Department of Trade and Industry and EPSRC, Engineering & Physical Sciences Research Council)) together with leading industrial partners, in order to develop an organisational and process framework within which a customers' need for a vehicle could be fulfilled in 3 days – from order placement, through manufacture and delivery. Ford, Honda, Nissan, Peugeot, Vauxhall and Volkswagen were involved as vehicle manufacturers, and GKN, Thyssen Krupp Automotive, TI Group (Bundy) Machine Tools Technology Association (MTTA) as suppliers. Further participants covered Logistics/distribution, Retail/dealers, IT, Finance and Government.
The team comprised leading academics and consultants led by: Professor Dan Jones and Peter Hines of the Lean Enterprise Research Centre at the University of Cardiff; Malcolm Harbour, MEP, of the International Car Distribution Programme; and Professor Andrew Graves, Co-Director of the IMVP, based at the University of Bath.

For the first time, research utilising a value stream mapping methodology showed that the vehicle manufacturers took near 40 days on average to deliver a vehicle:
• Order entry Dealer-Manufacturer 3.8 days
• Order bank 9.8 days
• Scheduled orders 14.1 days
• Sequenced order held 6.0 days
• Physical distribution 1.4 days
• Loading at factory 0.9 days
• Distribution to dealer 3.8 days
Total 39.8 days

A key number of problem areas were identified by the 3DayCar team:
• Vehicle complexity – the number and variety of models
• Capacity constraints – vehicle manufacturers versus suppliers
• Schedule/build unreliability
• Transparency – via IT legacy systems and lack of standards

The team suggested a substantial re-engineering of the whole system with particular focus upon four key areas:
• Improved Communications – direct links between marketing, supply, logistics and product and process development
• Alternative product strategies – e.g. "plug & play" offering intel inside"solutions – i.e. "Siemens or Bosch inside"
• New assembly strategies – micro factories, changing the economy of scale for vehicle manufacturers
• Alternative body structures – independent body panels, new materials.

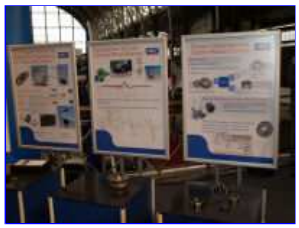
In conclusion, the 3DayCar programme found that the current "push" system of production was inherently inefficient and encouraged over-production and massive stock levels, while at the same time, failing to satisfy customers. The finding of the 3DayCar programme pioneered in the UK created world-wide interest from both industry and governments with regard to developing the next competitive transformation for the automotive industry. In particular, the European Commission, through its "Intelligent Logistics for Innovative Product Technologies"(ILIPT) programme, proposed a pan-European research project to study the applicability of the 3Day Car findings across the European automotive sector.

ILIPT
The industrial co-ordinator of the project is René Esser of ThyssenKrupp Automotive and it is administered by Helmuth Kergel of VDI/VDE-IT. The ILIPT project is divided into three main work packages:
The first package is to develop a digital prototype of a 2015 passenger vehicle using an innovative system of flexible body frame panels and modules for rapid build to order. This prototype has been named ModCar.
The second work package, FlexNet, focuses on the concurrent development of new flexible processes, technologies and supply network organisation structures.
The objectives of the final theme, InterPro are to develop new network design tools and novel process simulation methods to test and validate concepts from the other themes.
In addition the work requires the development of an understanding of the transition path towards the future automotive Build to Order (BTO) network, how to achieve a 5-day car between 2010 and 2015. This theme is led by Dr Glenn Parry of the University of Bath, School of Management.

Book
Dr Glenn Parry and Professor Andrew Graves were the editors of the book "Build To Order, The Road to the 5-Day Car", which was presented at the CLEPA Technology Day on 11th February 2009.

Conference
The Conference presentations elaborated on the ILIPT project, starting with Professor Andrew Graves. Dipl.Ing. Andreas Untiedt, ThyssenKrupp Steel AG talked about Modular Vehicle Design and new materials for future demands, followed by Dipl.Ing. Bernd Hellinrath of Fraunhofer IML who elaborated on Managing the Build-to-Order Supply Chain. Ms Katja Klingebiel of ebp-consulting gave a lecture on Designing BTO Logistics. Glenn Parry of the University of Bath and co-editor of the book, explained Build-To-Order – Make it happen.

Bosal exhaust systems.



Panels showing: tyre pressure monitoring & wheel end monitoring for trucks and trailers; development of load sesing wheel bearing; sesor integrations for Hybrid Motion Control.

Mr Stefan Moser from the Directorate General Environment gave a presentation on "Emission performance standards for new vehicles" which set stringent standards on the design of future power units.

Interactive sessions were led by Prof. Andrew Graves with the theme: "Built-to-Order – the future" and by Prof Peter McKiernan, University of St Andrews, School of Management about "Anticipation of change in the automotive industry".
Mr Tom De Vleesschauwer, HIS – Global Insight, gave scenarios for automotive decision making with various forecasts regarding the car of tomorrow: Environment, Safety and Mobility for 2020. Also Mr. Martin Haub, Vice President Product Marketing and R&D VALEO laid out Automotive trends for 2020.
EC strategies and policies affecting the automotive industry were dealt with Mr Andreas Siegler, EC Director, DG Research, Mr. Juhani Jaaskelainen, EC Head of Unit, DG Information Society and Mr. Philippe Jean, EC Head of Unit DG Enterprise and Industry.

Financial support mechanisms for the automotive industry, a major subject in this automotive industry environment, was explained by Mr. Mats Gunnarsson, Advisor to the VP, European Investment Bank.

Further details of these presentations can be found on the website www.clepa.eu

Discussions
During coffee breaks, and buffet lunch and dinner there was an opportunity to visit the aftermarket stand of Bosch, Cardone, EWFA, GKN, Philips, Schrader Electronics, TecCom and TRW as well as separate stands of Bosal, Bosch, Britax. ESafetyAware, ILPT, Light Sight Safety, Sanden, SKF and TRW. The meeting lasted until about 9:00 pm which meant 12 hours of knowledge and discussions with experts in their fields.

Unsold stocks
The 5DayCar programme would be a welcome solution to the present trouble of unsold stocks from the vehicle manufacturer to the dealer, and in addition to the financing difficulties, there is also the sheer space required to house the stock. It is this congestion which causes the greatest problems – often leading to bankruptcy. The demise of several famous names in the industry was also the subject of much discussion.

Uncertainty and too good quality
This product congestion is made worse by the uncertainty in the market. Not only are the financial losses and threats of dismissal a cause of uncertainty, also various fiscal measures regarding CO2 emissions and access to city centres are affecting the running cost significantly. Prospective buyers with enough money or credit are inclined to wait until the fiscal dust has settled, as they expect prices to drop anyway. Another factor is that cars today are of such high quality that replacement becomes less urgent. The average economic life has increased from about 9 years 25 years ago to some 15 years at present.

Best quality wins
When prospering clients start buying again they will select the best quality vehicles which meet the highest environmental standards (taxation, access to city centres), safety and mobility needs (comfort on long trips, parkability in tight spaces). Through the efforts of the engineers as explained at the third CLEPA Technology Day, the road ahead for the European automotive industry in achieving the highest possible quality of design, product and availability at reasonable cost, is pretty clear. This should ensure Europe's competitiveness in the world environment.

Please look at the list of available documentation for further study.

Pim van der Veer
European Editor

Available documentation and additional recommended reading

Anticipation of Change in the Automotive Industry – CLEPA/European Metalworkers Association – brochure – www.anticipationofchange.eu
Bosal Exhaust systems, heat exchangers, towing hatch, tool sets, roof racks, wind shields, cabs, storage rack systems, tubes, irrigation systems – general brochure 2008 – www.bosal.com
Bosch CAPS (Combined Active & Passive Safety) – Maximum safety via system networking – brochure – www.bosch-caps.com
Bosch Gasoline Systems – Driving Powertrain – DVD – www.bosch.de /k
Bosch Starter Motors and Generators – Start/Stop technology – brochure – www.bosch.de /k
Britax/Römer General brochure kids travel 09 – www.britax-roemer.eu
Britax Innovations Autumn/Winter 08 – Baby-Safe Belted Base- Click & Safe™ -Safefix plus TT – Baby-Safe Sleeper – Single-handed-release mechanism – brochure – www.britax.eu
Choose ESC – brochure – www.eSafetyAware.eu
The EMF Today & Tomorrow – For a Social Europe through Solidarity – brochure – www.emf-fem.org
Exhibition Catalog CLEPA Technology Day 2009 – Environment, Safety & Mobility for 2020 – profiles of exhibitors Aftermarket: Autoliv; Bosch; Cardone; EWFA (European Window Film Association);GKN; Philips; Schaeffler Group; Schrader Electronics; TRW - www.clepa.eu
GKN Remanufactured parts – brochure – www.gknservice.com
Global Insight/Futuribles Car of the Future – mobility solutions for the 21st century – Future powertrains for China – Is Mobility as we know it sustainable? - information folder – www.globalinsight.com - www.futuribles.com
ILIPT –Demonstrator Fraunhofer Institut Materialfluss und Logistik – CD – www.ilipt.org
Lighting Saves Lives – Investigation on the influence of car lighting on nighttime accidents in Germany – TÜV Rheinland – brochure – www.tuv.com
Rexroth /Bosch Group – Hydraulic Hybrids from Rexroth: Hydrostatic Regenerative Braking System HRB – brochure – www.boschrexroth.com /hrb
SKF – Reliability, sustainability, profitability – SKF capabilities for the automotive industry – information folder – www.skf.com
TRW Cognitive Safety Systems – Advanced Thinking – brochure – www.trwauto.com.

BOOK Build To Order The Road to the 5-Day Car
Editors: Glenn Parry, Andrew Graves
438 pages

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