



Knibb Gormezano & Partners  
International Management & Technology Consultants



# Introduction to Knibb, Gormezano and Partners Consultancy

September 2011

# Background

- Automotive Consultants of First Recourse
- Management and Technology Consultancy and Research Services
- Founded in 1988
- Head Office in Castle Donington, UK
- Two directors, eight senior associate partners
- Global consultant network
- Members of IBC, CMI, SAE, I Mech E, IET

# Capabilities

Sector-wide and geographic capabilities are extensive

## Projects

- Single Client
- Multi-Client
- Special Reports
- North America
- Western Europe
- Central and Eastern Europe
- Asia Pacific
- Latin America
- Rest of World

## Sectors

- Light Vehicles (Cars and LCVs)
- Heavy Commercial Vehicles & Trailers
- Off-Highway and Industrial Vehicles
- Tractors and Agricultural Machinery
- Marine
- Components
- Material
- Aftermarket
- Services

## Clients

- Vehicle Manufacturers
- Component Suppliers
- Material Producers
- Service Providers (OE and Aftermarket)
- Government
- Finance Industry
- Others

# Some of Our Clients



- *Two New Chinese Clients Added in Q4 2010*
- *KGP operates in all sectors of the transportation and automotive industry for clients ranging from SMEs to major tier ones, vehicle manufacturers, government and finance companies*

# Industries Served



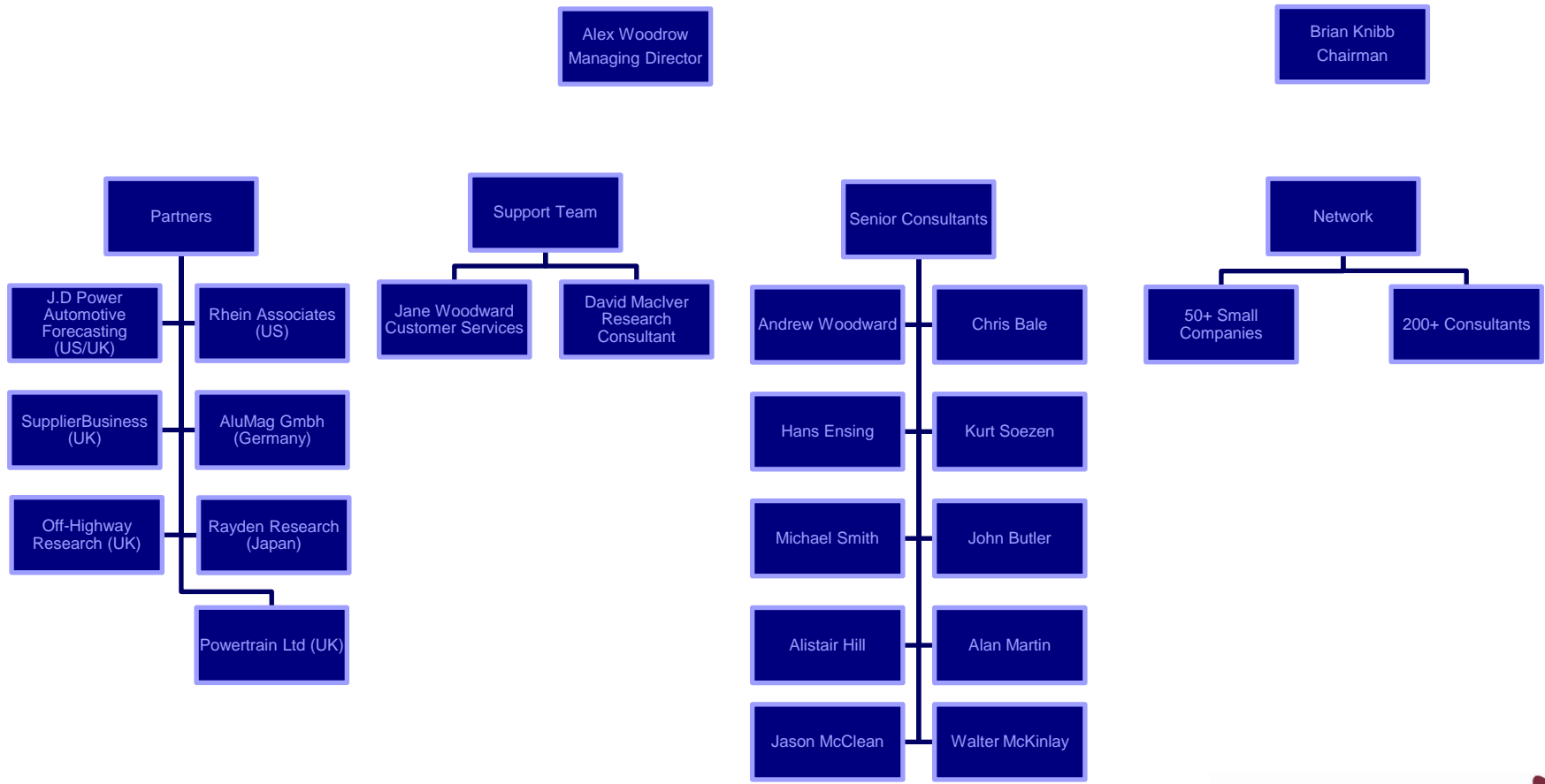
- *KGP operates in all sectors of the transportation and automotive industry*
- *Consultants have industrial experience throughout these various sectors*

# Methodology





# Resources



# Senior Consultants

- Alex Woodrow – Over 15 years as a consultant working at KGP, specialising in powertrain and materials projects. He is currently managing KGP's powertrain Off-Road and On-Road Heavy engine multi-clients and Light Vehicle Alternative Powertrain Services.
- Brian Knibb – Founding partners of KGP with over 30 years consulting experience. Previous at Perkins Engines, AT Kearney and Berkt Management. A major current project Brian is managing is assisting over 50 SMEs improve their performance and enter new relationships in the supply chain.
- Michael Smith – Senior Consultant with KGP since 2000, formerly at DRI, PRS with over 25 years consulting experience. Michael was the lead consultant on KGP's most recent transmission multi-client projects and has extensive experience related to driveline technologies.
- Kurt Soezen – Senior Consultant with KGP, consulting across automotive and non-automotive sectors since 1980. Kurt has been active most recently on KGP's alternative fuel related projects, interviewing companies across Europe and North America.
- Alistair Hill – Associate Partner, managing KGP Asia-Pacific, formerly with BBA and Rio Tinto, Alistair is a materials specialist, but has extensive knowledge of various segments, including the CV sector and hybrid and electric vehicles.
- Walter McKinlay – Associate Partner, has over 30 years senior management and consulting experience. Following on from a career in the UK truck and bus industry he has worked as a consultant in the automotive and green energy sectors.

# Senior Consultants

- Andrew Woodward – Associate Partner - An experienced Business Development professional, Andrew has spent over 20 years in industrial R&D, Product Development, Marketing and Business Development, including time at a major component supplier where he was Director Product and Technology R&D.
- Chris Bale – Senior Consultant with over 30 years experience in powertrain consultancy and a major tier one component supplier where he was Global Business Development Director.
- Hans Ensing – Senior Consultant with 25 years in the Commercial vehicle segment before entering consulting. Hans specialises in marketing, sales and the supply chain.
- Jason McClean – Consultant - Jason is a specialist in the marketing of performance motorcycles and related products. Following a long spell in journalism, as editor of leading UK trade press he moved into PR and consulting, establishing his own business in 2007, and working for KGP since 2009
- John Butler – Consultant - Following a long career at a major UK driveline system supplier John’s consulting work has focussed on value engineering, lean manufacturing and project management. He is current engaged with a client launching a new product in the low carbon technology field.
- Alan Martin – Associate Partner - Alan is based in the US and was formerly at Accenture and Arthur D Little. Alan’s functional skills are primarily in Corporate Strategy, M&A and Product Creation. He has led projects for over 40 major clients in 25 different countries during his consulting career.

# Partners



## Partner

J. D. Power Automotive  
Forecasting (UK/US)

## Scope

Light Vehicle Markets &  
Powertrain



SupplierBusiness (UK)

Special Reports



Powertrain Limited (UK)

Powertrain Benchmarking



AluMag GmbH (Germany)

Materials, Chassis and  
Suspension



Rayden Research (Japan)

Various Asia-Pacific



Rhein Associates (US)

Heavy Vehicle Powertrain



Off-Highway Research (UK)

Off-Road Equipment and  
Engines

Integer Research

Emissions, SCR





## Market & Business Strategy

- Acquisition Search
- Business Modelling
- Business Strategy Development
- Competitor Analysis
- Commercial Due Diligence
- Customer Perception Benchmarking
- Environment Performance Strategy
- Market Research and Forecasting

## Operations

- Activity Based Costing
- Lean Enterprise
- Quality Management
- Continuous Improvement Programmes
- Supply Chain Development
- Value Stream Management

## Technology

- Advanced Technology Assessment
- Techno-Economic Assessment
- Technology Surveillance
- Vehicle Environmental Performance
- IP Management

# Global Reach



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KGP



# Strategic Consulting Case Study

## R&D Benchmarking Strategic Review

**Purpose:** A major Asian truck manufacturer was preparing its five year plan and wished to benchmark itself against its major global competitors

**Objectives:** Benchmark major global truck OEMs R&D operations including: structure, detailed head count, at Daimler, MAN, Scania and Volvo  
The work entailed developing a comprehensive picture of the global R&D activities of the competing brands, their organisation structures, policies, processes, headcount and perceived future directions. The information was used to develop recommendations for the client's approach to organising R&D on a global scale

**Outputs:** Preliminary recommendations on R&D re-structuring and priorities for client

# Our Experience – Other Strategic Consulting Projects

Project	Overview
Engineering and Design Services World-wide (Strategic diversification)	KGP was engaged for this study by a major European engineering group contemplating entry into the engine and design services business. The main objective of the exercise was to provide a thorough appraisal of: Market segmentation (design, prototyping, stress analysis, dynamic testing etc); Market size; Growth trends; Sourcing practices; Nature of competition; Prospects for new entrants; Possible market entry strategies.
New Product Development Improvement Study	A major 1st tier player in the global automotive lighting systems required a full review of engineering resource levels, activities and operating processes to provide the input for making operational changes and improvements in new product development process, and improve time-to-market performance. Business from major new customers was won, in part, by demonstrating the efficiency of the improved new product activity.
Driveline Technology Market Audit	A Global Driveline system supplier wanted to review its business in Western Europe and North America prior to a major restructuring. To provide a analysis and understanding of the client's current and forecast market position KGP completed desk and field research with VM and clutch system suppliers in North America and Western Europe. Analysis of market share of major companies in North America and Western Europe for clutch, clutch Actuation, DMF, review of technical trends for above technologies, competitive situation/comparisons, strategic advice on future direction
Niche Vehicles	As part of its strategic planning a major European OEM wished to understand the value proposition offered by Europe niche vehicle manufacturers. KGP prepared a strategic review of the major niche producers and took the client on a tour of their facilities prior to making strategic recommendations.

# Technology Market Assessment Case Study

## Variable Valvetrain Market and Technology Assessment

Purpose:	The client, a major German conglomerate had some business in components of VVC and wanted to determine whether it should be regarded as a strategic business opportunity in the future
Objectives:	To analyse current status of variable valve control in passenger car engines in North America, Western Europe and Japan and produce forecasts for future applications, specific attention being given to: Driving forces for adoption; Competing technologies; Economics versus performance criteria; Vehicle manufacturer perspectives on demand levels. Profiles on use and application of VVC for each of the major vehicle manufacturers by engine type and current and future demand volumes by technology type were also required to assess the clients technology portfolio against the market opportunities.
Outputs:	An outline of opportunities and threats inherent in the business over the next 5-10 years and forecasts of current and future demand.



# Our Experience – Other Technology Market Assessment Projects

Project	Overview
Advanced Suspension Systems, Technology/Market Audit and Forecasts	A producer of position sensors used in the automotive and aerospace sectors had recently come into the possession of non-contacting position sensor technology as a result of an acquisition. Advanced (adaptive and active) vehicle suspensions were seen as opportunity areas for applying the new technology and advanced suspensions were expected to represent a growing feature of the market. Both propositions needed testing out before investments were made in research, development and prototyping activities.
All-Wheel Drive Technology and Market Forecasts	Building on various projects for other clients KGP completed a technology and market review of All-Wheel Drive, 4WD and limited slip differentials for a Japanese driveline supplier, seeking to develop new customers in Europe and identify opportunities in new programmes.
Engine Systems Development in Europe	A major Japanese vehicle manufacturer wished to understand engine systems expertise being developed within the supply sector so that it could take advantage from it in determining its own product, technology and component sourcing strategies.
Advanced Braking Systems	The client, a leading supplier of friction materials, had developed a new type of foundation brake. Interest had been generated with a leading vehicle maker who was evaluating the system with its prototype vehicles. The client engaged KGP to study the whole light vehicle braking sector and produce scenario based forecasts for the new technology's adoption rate. This took into account trends in braking development generally, including brake-by-wire systems, competing technologies and potential competitive actions by the existing brake systems suppliers.



# Market Entry Strategy Case Study

## Global Market Entry Strategy

- Purpose:** A major Asian vehicle manufacturer acquired a smaller vehicle manufacturer and had invested heavily in a new product. It wished to develop a market entry strategy for the acquisition but had little experience of the global market structure.
- Objectives:** Review global markets for light commercial vehicles in the 3.5T-6T segment, including market volume, major competitors, tariffs and non-tariff barriers, pricing etc. Evaluate markets against clients sales targets.
- Outputs:** Outputs included profiles of 54 potential markets and a ranking according to growth, size, competitiveness and barriers to entry. An outline market entry strategy and product competitiveness assessment were completed to finalise the project.



# Our Experience – Other Market Entry Strategy Projects

Project	Overview
Truck Market Feasibility Study	A major global truck manufacturer was considering setting up an assembly plant in Indonesia. KGP completed a full market and feasibility study for the proposed project and prepared a list of strategic options available to the client to optimise its investment in the country.
Assessment of Market Potential for a Commercial Vehicles Joint Venture in Russia	The clients had been requested to provide financial support to a joint venture between a west European and Russian vehicle maker. The specific proposal was to develop a new vehicle with diesel engines designed and developed by the west European company. An independent assessment of market needs and prospects were therefore required to assess the market needs and attitudes of potential uses of the new vehicle in selected Russian locations especially focusing on: Duty demands and the requirement for diesel as opposed to gasoline engines; Competitive choices on offer to the typical buyer; The impact of the western European vehicle makers involvement in building market acceptance and credibility; Attitudes to market price levels stemming from the proposed venture.
European Aftermarket	Conducted for a major company and concerning opportunities for vehicle lighting products in the replacement market. The study focused on Germany, France and the Benelux countries and included: Market assessment; Distribution channel analysis; Competitive analysis; Market entry strategy.
Export Development Support for the Component Supply Sector (2 projects)	KGP was engaged in five phases of an extensive programme which aimed to develop West European and US markets for selected Indian component manufacturers. Another aspect of the programme was to assist Indian automotive component manufacturers introduce up to date manufacturing quality and control methods. The market development programme covered both original equipment manufacturers and the aftermarket and entailed market investigations in Western Europe and North America. Subsequently KGP has continued to work for many of the companies on various product, technology and market related projects.

# Commercial Due Diligence Case Study

## Commercial Due Diligence on a Powertrain Manufacturing Joint Venture

**Purpose:** The client was proposing to invest in a new joint venture between major international vehicle groups to produce engines and transmissions in Russia. Due diligence was required to assess the technical and market-related risks facing the proposed JV.

**Objectives:** To provide a detailed risk assessment and recommendations concerning:

- The JV partners' objectives and strategies;
- Plant and equipment acquisition and the appropriateness of the production processes;
- Project management and timetable;
- Technology status of the products of the JV;
- International and local sourcing prospects for the JV;
- Pricing arrangements and the customer base for the products of the JV and the downstream market prospects for the principal customers;
- Potential market volatility caused by changes to government regulations for investment and foreign trade;
- Competitor analysis;
- The financial plan and its sensitivities;
- The JV agreement and its appendices.

**Outputs:** A detailed risk analysis of the proposed JV, highlighting key risk areas, possible means of decreasing risk exposure as well as recommendations on the attractiveness of the proposed investment.

# Our Experience – Other Commercial Due Diligence & M&A Projects

Project	Overview
Commercial Due Diligence on traction motor supplier	An investor was evaluating a technology start-up producing traction motors for electric vehicles. KGP examined the costs and technology associated with the product and review competing products worldwide
Commercial Due Diligence for a new vehicle programme	<p>The client was proposing to become a lead investor in a programme to introduce a completely new range of vehicles into an existing manufacturing firm. This involved working with another major vehicle maker in Europe. The client requested commercial due diligence to assess risks and gaps in the overall product and manufacturing installation plan as well as the proposals to bring the new product to market. Special attention paid to:</p> <ul style="list-style-type: none"><li>• Customer perceptions of different suppliers;</li><li>• Perceived technical and economic comparisons of alternative vehicles;</li><li>• Sourcing and cost-down proposals;</li><li>• Relative competitiveness of the company and its proposed new products.</li><li>• Identification of 22 risk areas in the product, manufacturing and marketing plans together with observation on product costs, sales forecasts, warranty.</li><li>• Recommendations concerning financial sensitivities to be built into the investment analyses prior to committing to the investment.</li><li>• Recommendations concerning monitoring of milestones subsequent to the investments being made.</li></ul>

# Environmental Performance Case Study

## Effectiveness of Vehicle Manufacturers Emissions Control Strategies

**Purpose:** A major international vehicle wished to gain an understanding of the emissions control strategies used by European car manufacturers to meet emissions control legislation and the effectiveness of the adopted strategies in achieving the desired results.

**Objectives:** To establish the emissions control strategies used by major passenger car manufacturers in Western Europe in order to meet current and future vehicle environmental legislation

- To examine and evaluate the equipment and methodologies used in achieving the required vehicle environmental performance
- To evaluate the effectiveness of the emissions control strategies in terms of performance, effectiveness and value
- To evaluate the relative effectiveness and cost of different emissions control strategies
- To establish the suitability of equipment to meet successive levels of exhaust emissions regulations

**Outputs:** Methodology for evaluating the effectiveness of the various emissions control strategies

- A comparative view of vehicle environmental performance in Europe
- An assessment of ability to meet successive levels of vehicle environmental performance
- Catalyst and control equipment data

After a successful completion of the project in 1995 it was repeatedly regularly thereafter.



# Our Experience – Other Environmental Performance Projects

Project	Comments
Alternative fuel strategies	A global vehicle manufacturer wished to understand the strategies of its competitors related to alternative fuels, including hybrids and bio-fuels. The study required face to face with a number of vehicle manufacturers worldwide and was completed in February 2009. KGP repeated the project for the customer in early 2010.
CNG Vehicles in Europe	The customer wanted to review specification and costs of CNG models in Europe. KGP identified CNG vehicle availability in Europe, the specification of the CNG system for available vehicles and the system costs. The client then used this to define its own CNG vehicle strategy
Vehicle Environmental Performance Strategies	An analysis of various approaches to achieve targets and related cost implications was prepared as a special report for the Financial Times Automotive business.
End of Life Vehicle Strategies	The European car manufacturers association was considering its position regarding the treatment of end-of-life vehicles. The objectives of the work was to: undertake a detailed appraisal of current landfill regulations in the various European countries as applied to end-of life vehicles; to review and compare different available and upcoming technologies for shredder residue treatment; to establish a preliminary cost benefit analysis for the relevant technologies and make recommendations for further research; comprehensive review of the process of land fill as it applied in the principal European countries; detailed material, process and development profiles for each technology together with cost/benefit analyses based on best available information; recommendations on implementation steps.



# Materials Case Study

## Light Metals Applications in European Cars and LCVs

- Purpose:** Concentrating on aluminium and magnesium, this study examined the driving forces, economics and likely application rates in light duty vehicles produced in Europe. The study was driven by a number of suppliers interested in the developing market for light metals.
- Objectives:** The study was aimed at developing detailed forecasts for:
- Body structures and interiors;
  - Powertrain;
  - Chassis.
- Identify trends in material, process and competing technologies
- Outputs:** Forecast usage by weight and share for aluminium and magnesium in 50 major components, split by vehicle model and -2015. Analysis of key drivers and alternative scenarios for materials usage.

# Our Experience – Other Materials Projects

Project	Overview
Steel Volume and Trend Forecast	A major Asian steel producer wished to develop a global strategy for its automotive products and needed to understand the different requirements of the global manufacturers regionally. KGP developed a forecast of steel usage by VM model and platform, split by steel type and coating to assist in the strategic planning process. KGP has since completed numerous projects for the client through its European technical centre, assisting it to enter the European market with its products.
Plastic Metal Hybrids Market Review	A European materials producer was seeking to identify new products for its automotive division, to diversify away from conventional processes. A focus for its strategic plan was plastic metal hybrids. KGP completed an assessment of demand drivers, market prospects and opportunities for the technology, prior to the client's entry into the market.
Evaluation of JV Partners, Materials and Process Technology for Cylinder Blocks and Other Large Components	A principal UK foundry needed to make key decisions regarding cylinder block strategy and potential investments in a joint venture activity with a German partner. The aims of the project were to undertake a detailed appraisal of current applications for aluminium castings, sources of supply and processes used, and to develop strategy proposals for the client. Special attention was paid to customer perceptions of different suppliers, perceived technical and economic comparisons of alternative materials and processes; sourcing strategies and trends; Relative competitiveness of the UK especially compared to Central Europe. Subsequently KGP completed studies for the potential JV partners in Europe.
Others	Various other projects have been completed covering diverse topics such as plastics in powertrain and fuel systems, titanium, magnesium , forgings, castings, pressings and extrusions.



# Transmission Case Study

## Transmission Multi-client Study

- Purpose:** The core aim of the study was to understand the market in order for the clients to determine their own individual product and market strategies.
- Objectives:** To develop a comprehensive analysis of the market and production activities for transmissions in Europe and produce forecasts for the following 5-10 years. The work included:
- Market history by model
  - Technology and economics analysis
  - Manufacturing and sourcing analysis by model
  - Consumer views and expectations
  - Manufacturer opinions and plans.
- Outputs:**
- A complete (5 year) historical analysis and forecasts of transmission fitment and sale to model level in the principal markets of Europe;
  - A detailed model by model analysis of the production and sales of transmission type, including sourcing, for European produced vehicles;
  - Specifications of the transmissions used;
  - Sample based comparisons of fuel consumptions, initial price premium and residual values;
  - An analysis of the various technologies in use and being developed including comparisons of cost, weight, parts count and performance;
  - Results of consumer research carried out in four major markets and focusing on car buyer attitudes to automatic transmissions.
- The first study was completed in 1989 and regularly since.

# Our Experience – Other Transmission Studies

Project	Overview
Technology Assessment of Automated Manual Transmissions	A major driveline components supplier was reviewing its IP portfolio and believed that a number of European systems suppliers were infringing its patents. KGP conducted a market, technology and patent review of automated manual transmissions to identify potential infringers
Transmission Benchmarking	Following on from KGP's various transmission studies a number of clients requested further detailed analysis of the competitive manufacturing base
Synchroniser Ring Sourcing and Technology	A Japanese supplier of friction coatings for synchroniser rings and clutches needed to understand the nature and structure of the European market in order to further its expansion plans in the region. The outputs included a comprehensive analysis of purchasing practices and sources for supplies of synchroniser rings to European manufacturers of manual transmissions. Special attention was paid to: Synchroniser technology; Materials used; Friction coatings used; Trends in volume, technology and levels of complexity.
Others	Similar studies have been completed relating to sourcing of castings for driveline components, dual mass flywheels, transfer cases, axles and driveshafts



# Powertrain Case Study

## Off-Road Engine Multi-Client Study

- Purpose:** Following on from KGP's successful on-road heavy engine study clients required a similar study for off-road engines, including engine production and emissions aftertreatment.
- Objectives:** Clients wished to understand the market structure, trends and volumes for off-highway equipment, engines and aftertreatment in face of key drivers in the industry including legislation, competitive developments and globalisation.
- Outputs:** The study provides forecasts by manufacturer down to engine and compliance level to 2016, including qualitative profiles. Subsequent work is being completed to analyse the demand for Adblue and other component and systems on Off-Road equipment.

# Our Experience – Other Powertrain Multi-Client Studies

Project	Comments
Technology and Market Mapping	A leading materials supplier wished to understand the future market and supply chain for super-capacitors. KGP examined the market for the technology and forecast the growth potential in light of future trends in CO <sub>2</sub> reduction and fuel economy targets
On-Highway Heavy Engines	<p>A number of clients had asked KGP and J D Power about the availability of data and consultancy on the global heavy engine business. KGP decided to develop a forecast to meet this demand. The objective of the project was to provide a detailed profile of the global heavy on-road engine business including: Forecasts for on-road vehicles by: Engine manufacturer; Engine model; Emissions compliance level; Emissions aftertreatment; Engine specifications.</p> <p>It included a detailed database of global heavy on-road vehicles including over 100 vehicle manufacturers in light, medium and heavy truck and bus segments and 400 engine models and their specifications;</p>
Light Vehicle Engine Production	KGP completed a multi-client strategic review of the Global Light Vehicle Engine business to review the impact of major trends in globalisation, consolidation and technology drivers on engine
Advanced Power storage	<p>A Major European Vehicle Manufacturer was developing advanced vehicle powertrain technology requiring advanced batteries and super-capacitor technology and wished to review supplier capabilities and strategy in this area. The project reviewed the over 120 advanced battery companies and over 40 super-capacitor suppliers and identified market leading suppliers with most advanced applications. It also included an evaluation of battery and capacitor costs.</p>

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# Supply Chain Case Study

## Supply Chain Mapping and Partner Search

Purpose:	The client, a major exhaust system supplier, was seeking to reduce its part cost in the face of falling volume and sought partners in Central and Eastern Europe to add to its production base. KGP was tasked to map the supply chain and identify potential partners.
Objectives:	Map existing relationships in the supply chain and qualify potential partner/acquisition targets for the client
Outputs:	Review of supply relationships in 7 major central and Eastern European markets; Ranking of suppliers key attributes; Market visits to assess suppliers capabilities. As a result of the study the client entered a relationship with a company and later acquired the company.

# Our Experience – Other Supply Chain Projects

Project	Comments
Fuel systems supply chain mapping	Completed for a fuel company, this project examined global trends in bio-fuel adoption and the implications for the supply chain, from fuel tank to fuel injection, focussing on identifying the suppliers and changes in material specifications. The customer used the project to identify potential partners in the supply chain with which it should co-operate
Examination of Customer Needs and Perceptions of Suppliers for OE Engine Components	<p>The client was aware of the increasing responsibility being placed on first tier component suppliers by vehicle and engine companies. It needed to respond with new products and service offerings which met the present and future needs of the customer base and took into account customer perceptions of the supply base as well as competitive positions. This project was undertaken to provide the information on which to develop that response.</p> <p>To provide a comprehensive overview of customer needs in the engine components sector, now and in the future, and perceptions of the client's position in the different countries and companies. In this process special attention was paid to:</p> <ul style="list-style-type: none"><li>• Driving forces for engine development;</li><li>• Impact on technology and design of engine components;</li><li>• Methods by which new products and technologies were being developed;</li><li>• Perceptions of the client relative to the customers' own criteria;</li><li>• Competitive developments in the engine components business.</li></ul>
Aluminium Casting Sourcing	<p>A Japanese manufacturer of aluminium castings for the automotive industry Europe was considering establishing production operations in Europe. To provide a comprehensive analysis of the make/buy situation for large aluminium die-castings at the main vehicle manufacturers in Europe. In addition, to identify the principal external sources used for large die-castings such as cylinder blocks, transmissions housings and oil pans. Individual sourcing profiles for each of the vehicle manufacturers being studied.</p>



## Contacts

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