

Dr Trevor J. Hutley MBA

Global Polymer Industry Consultant

Research & Innovation Advisor

Technical & Management Consultant



Experience Summary

A career polymer and petrochemical industry specialist with global experience in many pioneering and complex situations. An unusual combination of broad and deep technology and science knowledge; an understanding of intellectual property; combined with finance, marketing, manufacturing and business experience, deployed in technical service, problem solving, new product / new market / new business development and technology commercialisation, in industry, business and educational spheres, in many cultural contexts. A continuous track record of the commercial development and application of technology and science in a multitude of market sectors. Kaizen [*continuous improvement*] is part of his DNA. Very strong market and customer focus. A strategic and global business thinker. High energy, serious commitment to the task. Very pro-active. Passionate. Analytical driver. Very high personal standards of achievement with impeccable integrity, and a good sense of humour. A very fast learner, with a teachable spirit. Adaptable. Flexible. Highly creative. Excellent presentation and communication skills, confident public speaker. A frequently invited speaker, chairman and moderator at international conferences.

Credentials

Brunel University UK

Cranfield Institute of Technology

Business School, Lausanne CH

Member, Institute of Materials

Member, Royal Society of Chemistry

Chartered Chemist, Chartered Scientist

Senior Member, Society of Plastics Engineers

BTech First Class Polymer Technology

PhD in Polymer Engineering

MBA *summa cum laude*

MIMMM

MRSC

CChem, CSci

SPE since 1990

Areas of Specialisation

- polymer product and application development
- technology commercialisation
- research and innovation

Selected Accomplishments

1. From a plot of sand: conceived, designed, built, equipped and staffed an iconic \$50m+ state-of-the art polymer application and development centre of 10,000m² in the Dhahran TechnoValley, Saudi Arabia for Sipchem

2. GPCA Research & Innovation [R&I] Committee founder member and advisor - conceived and contributed to an annual R&I conference in the UAE; proposed a patent and IP seminar to increase knowledge, awareness and expertise with in the region

3. Wrote a chapter "The History and Economic Impact of Polyolefins" that has become THE reference for highlighting the growth and significance of the polyolefin industry

Career History

PCN Plastics Consultancy Network

PCN strategy development; including website re-design

SpecialChem

Author and presenter on mineral-filled plastics and composite materials

AquaLabs *Advanced nutrient solutions for the global hydroponics market*

Polymer consultant to the Managing Director of the business, focussed on localisation of packaging manufacture

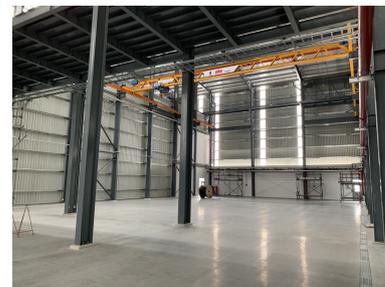
Benali Group Algeria

Feasibility Study on masterbatch production

DuPont Innovation Practice Geneva Principal Consultant

June 2018 -->

[Polymer] Application Development Centre for SCG in Thailand 2018-2019



University of Liverpool

Consultant, commercialisation of discoveries in polymer chemistry

December 2016 -->

Developed an in-depth understanding of novel hyperbranched polymer chemistries and their potential in industrial applications; 2 industrial (financial) commitments to the programme

KISR Kuwait Institute for Scientific Research

Advisor to the Polymer group

September 2016-->

Review and proposals on the programme, strategy, road-map, resourcing, staffing

Dhahran TechnoValley Company DTVC
Technology Commercialisation Consultant

January 2015 --

Analysis of the KFUPM polymer patent portfolio; identified the patents with the most industrial potential, and developed a path forward for further development

GPCA Gulf Petrochemical and Chemical Association, Dubai
Research & Innovation Advisor

March - Nov 2015

organiser and speaker at GPCA Research & Innovation conference(s)
coordinator of Research Studies

Pan Gulf Holding [Corporate]
Business Development Consultant

Jan - Nov 2015

Polykem Sàrl
Technical and Management Consultant

April 2014 - March 2019

Developed in-depth knowledge of super-absorbent polymer SAP formulation and production technology, primarily for agriculture applications, and other markets. Prepared and delivered many presentations to interested parties.

16 October 2009 - 15 January 2015

Sipchem, Al-Khobar, The Kingdom of Saudi Arabia

Joined the executive management of Sipchem (Saudi International Petrochemical Company) at the HQ, as the General Manager of Product and Technology Development (appointed Director of Research December 2013), with a primary remit to conceive, design, equip, staff and operate the new \$50m (polymer) Product and Application Development Centre [PADC], in the Dhahran TechnoValley, one of the first innovation centres in The Kingdom, and to create the R&D / Technology dimension of Sipchem.

Member of the (Advisory) Board of the R&D Centre

Member of the Board of Sipchem Marketing Limited

Member of the Industry Advisory Board for the Department of Chemical Engineering, KFUPM

Member of the Industrial Advisory Board for KAUST (KIAB)

Member of the Investment Committee of Sipchem Management

Member of the GPCA Plastics Excellence Awards Jury

[Founder] Member of the GPCA Research & Innovation Committee

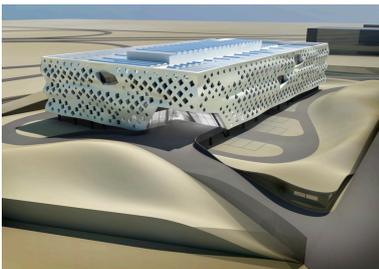
As a subject matter expert in the polymer industry, assisted in the transition from petrochemicals ("small molecules") to polymers, through mentoring, and teaching, formally and informally.

As a subject matter expert in R&D, initiated the cultural change to becoming a technology company.

Active in seeking and analysing New Business Development and Merger & Acquisition activities. Engaged with branding and image, and advertising initiatives connecting the products with the market applications.

The interface with KAUST and the Industrial Collaboration Programme (KICP), and KFUPM and the DTV.

A primary interface with the GPCA, particularly through the Research & Innovation Committee and the annual Plastics Conference, and the flagship GPCA Annual Forum. Frequently invited speaker or keynote speaker, panelist and session chair at international conferences and national venues (KAUST, KFUPM, KACST).



August 2007 - October 2009

Lotus Engineering, Norwich, UK

Polymer Consultant

- polymer composite electrode development for a flow-cell battery for a client of Lotus Engineering, Plurion Systems Ltd., a subsidiary of Applied Intellectual Capital [AIC]
- audit of automotive adhesive applications at Lotus Cars
- established Adhesives Laboratory
- review of joining technologies for dis-similar materials
- development of a resin infusion process for epoxy/carbon-fibre composites
- review of thermoplastic composites
- development of an R&D strategy for vehicle design
- polymer materials selection for new car in China

September'03 – August'06

Royal Commission,

Jubail Industrial College [JIC], Kingdom of Saudi Arabia

Contract with the Royal Commission to establish the first-ever Polymer Technology Program for the Saudi polymer industry

- Defined Industry needs with top management of representative companies in the polymer industry
- Created Polymer Technology Diploma curriculum and Polymer Technology industrial short-course outlines
- Designed, equipped and established 3 Polymer Laboratories
- Prepared staffing plan and engaged international professional staff
- Obtained JIC Council approval for launch of Polymer Technology Diploma in 9/2004
- Expansion phase 6/2005 to increase number of graduates to meet industry demand
- First-ever Polymer Technology graduates join industry 9/06

November 2000 -- June 2003

Cabinet Gainsbury & Co - management consultants

“a partner to companies in connection with the senior recruitment implications of their strategic decisions”

Developed my own business, in cooperation with the Managing Principal, Dr Jacques Gainsbury, using the proven methodology, approach and philosophy of Gainsbury & Gentilini: define with potential clients the credible and convincing nature of their need for a new senior manager or specialist, identification of potential targets through the creation of a unique and specific network of knowledgeable industry participants, evaluation of potential targets, presentation of the best two potential transplants, and finally manage the integration of the transplant to the client throughout the two-year guarantee period. Consulted in the following sectors; polymers, materials, biotechnology, pharmaceuticals, petrochemicals, IT, consulting, medical research, banking, semi-conductors, fine art, musical instruments, e-government and e-commerce.

September 2000 --> Arrabon Technologies - polymer industry consultant

- Member, Global Industry Advisory Commission, OneChem.com Inc., Miami, Florida
- European and American Market Study for Silicone Elastomers
- Due Diligence on Fluorocarbon Engineering Company
- Study of 3 Market Opportunities for New Weatherable Styrenic
 - refrigerated vehicles - utility meter enclosures - passenger car accessories
- Operational Audit of Plastics Moulding Plant
- Polymer Technical Training

- *R&D project management - planetary extruder applications*
- New Polymer Blend - development and market development
- *Feasibility Study - Mineral Filler Business Opportunity*
- *Establishing Storefronts for e-commerce clients*
- *Sourcing of polymers for Cuba*
- European Market Study - TPE
- Materials Consultant & Project Advisor on new consumer product development [UK]
- *Sourcing of food-grade HDPE for bottle closures, including manufacturing economic study*
- *coloured UV transparent plastic for patented new product [USA]*
- *translucent weatherable matt PP sheeting for consumer product*
- *business concept development for polymer conversion business for Saudi investment company*
- global market study on The Future of Synthetic Paper
- developed novel nylon product portfolio for USA chemical company wishing to move in to the plastics industry
- *retained by a Canadian company to develop engineering polymer resins*

1985 E. I. Du Pont de Nemours & Co

1985 - May 1989 Du Pont (UK) Limited (Hemel Hempstead UK) May 1989 - 1996 Du Pont International SA (European Technical Centre, Geneva) 1997 - April 1998 Du Pont China Limited (Regional Business Centre, Hong Kong) April 1998 --> Du Pont International SA (European Technical Centre, Geneva)

Dec 85 - Mar 88: Bexloy® Products Venture - Europe Automotive Engineering Materials Division, Automotive Products Department (APD)

- European responsibility for the development of Bexloy® **automotive** engineering resins for bumpers/body parts, with emphasis on Bexloy® V thermoplastic polyester elastomer resins. • Part of worldwide task force focussing on the market and product development of Bexloy® V resins. • Coordination of key Bexloy® resin development programs in Europe, involving frequent customer contact, interaction with European marketing team and processing specialist, and liaison with USA, Canadian, Japanese and European research, marketing and management • Scouting research of new polymers, polymer blends, additives

- commercialized:
 - Bexloy® V-573 for Porsche Carrera 4 bumper system
 - Bexloy® V-572 for rocker covers (USA)

Apr 88 - Mar 90: Engineering Polymers Enterprise Rynite® Thermoplastic **Polyester** Resins

- European responsibility for Rynite® PET and PBT development programs; new product development for electrical, electronic, and appliance industry segments; cost reduction and Quality programs
- Environmental aspects of FR systems.
- contributed to major (\$9.4 million) turn-around of the Rynite® business
- commercialized: Rynite® RE 9082 for T-210 lamp sockets at BJB (now a \$10 m application)

Mar'90 -> Oct'93: Engineering Polymers Enterprise Zytel® **Nylon** Resins

- global responsibility for development of heavy-metal -free colour offering of Zytel® & Rynite® engineering polymers - all heavy-metals were eliminated by the end of 1991 in Europe
- European responsibility for the development and support of glass-reinforced Zytel® resins, focussing on automotive applications
- commercial: Zytel® 70G35 HSL A2 BK267 for air-intake manifolds (Ford Mondeo 1.6)
- developed “best-in-class” lost-core air-intake manifold resin
- responsible for key aspects of Zytel®/Maranyl® technical integration [1993 ICI Nylon acquisition]

Jan'92 -> Dec'93: *Liquid Crystal Polymer* Enterprise New Business Development Division, CR&D

- European responsibility for Market Development of **LCP** business, involving focussed development activity at major targeted accounts • secured first sales of Zenite® LCP in Europe

Nov'93 -> Dec'96: Engineering Polymers SBU DELRIN® **acetal** Resins

- major contributor to primary global Delrin® R&D program:
 - product development of Delrin® resins with improved wear and friction properties
- market development/sales support for these new products
- supervised post-doctoral scientist at the University of Leeds on the tribology of engineering polymers
- new product development to drive business growth
- New Product Coordinator for European Business
- member of European Delrin® Business Team (\$162m business)
- contributor to Future Business History [“populating the Technology Pathway”]
- created literature to support business growth
- technical service & support to European business
- inaugurating pilot Electronic Laboratory Notebook
- member of Delrin® Global Technology Leadership team
- member of Corporate Polymer Core Competence “Expert team”
- adviser on new Technical Laboratory in Shenzhen, China

Jan'97 -> Apr'98 Regional [Asia-Pacific] Technical Manager Engineering Polymers *based in* Hong Kong

- assigned to create a Technical Service dimension & organization for Asia-Pacific [AP]
- initiated comprehensive AP Technical Plan, including resource optimization
- hiring, training and coaching of technical professionals
- establishing Technical Centres in ASEAN, Korea, Shenzhen, India, China
- promoted global linkage of all regional Technical Service organizations
- contributed to R&D infrastructure section of Asia-Pacific Technology Plan
- sponsored and taught on the first EP Training Program outside of Japan, in Shenzhen PRC

May'98 -Dec'99 Research Associate Engineering Polymers *based in* Geneva

- new **nylon** product development responsibility - European region - for:
 - Zytel HTN® (high-temperature nylon)
 - Minlon® engineering polymer
- defined new generation of HTN resins (53G, 54G)
- supported HTN market development activities
- developed new Minlon® wheelcover resins, engine-cover resins, rocker-cover resins, chrome-plateable resins
- defined & developed "Minlon® 2000" for VW global wheelcovers (3 500 tpa)
- defined and developed new rocker cover resin Minlon®EFE6153 BK413 V4
- initiated nanocomposite investigation program
- member of Minlon® Operations Team
- technical service for Minlon®
- development of "FENIX4" - global nylon formulation database

DEC'99 --August'00 Research Associate - Global New Business Development Team

- initiated inaugural meeting of Team in the USA 12/99
- technology and market target definition
- training and mentoring of new hire

1982-1985 Cranfield Institute of Technology

Research Officer [Post-Doctoral Fellow], Polymer Composites Group, School of Industrial Science

- Research on structure/property relationships in mineral-filled thermoplastics, particularly PP (*financed by an industrial consortium*)
- Preparation of Reports and Reviews to consortium
- Specialist area: the thermal analysis of polymers, with particular emphasis on the crystallization and heterogeneous nucleation of polypropylene by DSC.
- Polymer characterization by GPC, C-13 NMR, X-Ray Diffraction, electron and optical microscopy. • Introduced thermal analysis techniques and instrumentation
- Lecturer in Polymer Chemistry on the MSc in Polymer Engineering 1983/1985
- Supervision of MSc students' research projects
- Consultant to several major companies

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1980-1982 Dunlop Technology Division [Birmingham]

Senior Polymer Technologist and Project Leader in the Department of Materials Applications

- Responsible for two teams working on a number of major polymer projects with high scientific and Technological content. Emphasis on materials development. Elastomer/plastic blends. Development of novel thermoplastic elastomers and compounds. Post-fabrication cross-linking of thermoplastics compounds. Solid golf ball development. Review of thermoplastics composites/pultrusion. Short-term Divisional problem solving
- Technical input to several projects originating in the Division of New Business Ventures
- General Departmental functions included new materials assessment, preparation of research proposals and presentations on project progress with sponsoring Divisions

1977-1980 Dunlop Engineering Plastics Division [Wrexham, Wales UK]

- Interdisciplinary research in collaboration with Aston University on new product development, and its rôle in business strategy • Involved as polymer technologist and quality engineer in new materials, product and process development for industrial, consumer and automotive markets
- Responsible for factory quality systems, SQA, incoming materials QC, Final Inspection and Metrology Laboratory

1974 - 1976 Industrial Training [April-September of the first three years of BTech]

1974	APV-Kestner Ltd Greenhithe DA9 9NG Kent England	- technical development of fibre reinforced polyester and furane resins Keeglas® - materials evaluation & testing - microcomputer programming
1975	Jarzon Plastics Ltd Hayes, Middlesex. UK	- all production aspects of the precision injection moulding of thermoplastics
1976	British Plastics Federation 47 Piccadilly, W1	- Packaging Group Executive - Quality Mark Administrator, Reinforced Plastics Group - Secretary, BAHPA

Servicing of the Group Management Committee, sub-committees and working parties.

Liaison with related organizations.

Implementation of new Packaging Group Structure.

Market research on Plastics packaging

“Statistics on Plastics Packaging” BPF Publication 153#1, October 1976

Preparation of Buyers Guide on Plastics Packaging.

Organization and manning of a BPF-sponsored stand “Plastics for the Meat Industry” at the London Meat Trades Fair, Alexandra Palace, 16-19 May 1976. Administration of the BPF Quality Mark of the Reinforced Plastics group.

Secretariat of the British Agricultural and Horticultural Plastics Association, including organization of a European visit, and preparation of Accounts.

Blaw-Knox, Rochester, Kent UK - storeman, fork-lift truck driver

1973

Education

1973 - 1977 Brunel University UK

BTech *First Class* Polymer Technology

Prizes for the Best Work at Stages III & IV (1976 and 1977)

Member, Board of Studies for Materials Science & Technology (1976/77)

BTech *dissertation*: "Rheology of PVC/Hytrel® Blends"

1977 – 1979 Aston University Birmingham UK

Interdisciplinary research studies
(Polymer Department & Aston Management Centre)

on: "New Product Development and its Rôle in Business Strategy"

1982- 1985 Cranfield Institute of Technology

PhD in Polymer Engineering

"Structure-Property Relationships in Mineral-Filled Thermoplastics"

1990 - 1991 Business School, Lausanne CH

MBA *summa cum laude*

Finance and Marketing, specialist subject LBO {Leveraged Buy-Outs}

Award for "Outstanding overall progress in the MBA program" (3/91)

1967 - 1973 Dover Grammar School [1966-1967 Hastings Grammar School]

GCE - **Advanced Level**

Chemistry (A)
Mathematics (B)
Physics (A)

GCE - **Ordinary Level**

English (A) French (A) Physics (A) Biology (A)
German (B) Maths (A) Chemistry (A)
Additional Maths (A) Religious Knowledge (A)

PROFESSIONAL QUALIFICATIONS AND MEMBERSHIP

Member, Institute of Materials, Minerals and Mining

Member, Royal Society of Chemistry

Chartered Chemist

Chartered Scientist

Senior Member, Society of Plastics Engineers

MIMMM

MRSC

CChem

CSci

SPE since 1990