Ernst & Young Entrepreneur of the Year Case Series

JOHN CONCANNON

JFC

It is approaching eight o'clock on a Tuesday evening and John Concannon, founder and CEO of JFC, is on an Aer Lingus flight bound for Dublin from Warsaw. His thoughts turn to preparing a presentation that he has agreed to give to budding entrepreneurs at the Radisson Hotel in Galway the following morning. The co-pilot's announcement interrupts his thoughts: "the flight will arrive on time in Dublin airport". This is good news, as he will be on time for his connecting 10.15pm Aer Arann flight to Galway. He reaches for his A4 pad and his bag, and begins to jot down some notes for tomorrow morning's presentation. In doing so he reflects on his experiences – the highs as well as the difficult times. He casts his mind back to when the company was first founded in 1987, when the industrial outlook in Tuam was bleak. In January of that year the town experienced the closure of the local sugar factory, which had provided employment for the whole community. As a result, the unemployment rate in the Tuam area hit 28.8 per cent. There is no doubt that he has come a long way since then. As his flight nears the end of its journey, John looks through the airplane window at the green fields below and thinks about what he will say in his presentation. A turnover in excess of €30 million, a workforce of 200 and operations in the UK, Poland and the Netherlands are all evidence of his company's phenomenal success. But the challenge of remaining innovative in a cost-driven and highly competitive marketplace is always at the forefront of John's mind.

This case was prepared by Dr. James A. Cunningham* as the basis for class discussion rather than to illustrate either effective or ineffective handling of a business situation.

The *Ernst & Young Entrepreneur of the Year Case Series* highlights the entrepreneurial pathways and strategies of successful Irish entrepreneurs. By platforming positive role models, the cases aim to foster entrepreneurial endeavour among students. The cases are based on the Ernst & Young Entrepreneur of the Year Award finalists and are edited by Dr Colette Henry at the Centre for Entrepreneurship Research. This project is a joint initiative of Ernst & Young, the Centre for Entrepreneurship Research (DKIT) and InterTradeIreland. InterTradeIreland is responsible for the promotion of trade and business on an all-island and cross-border basis.

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The Entrepreneurial Journey – the early years

John Concannon was educated in St Jarleth's in Tuam and, on leaving school, worked in the transport industry and helped out on the family farm for nearly ten years. However he wanted to educate himself further and do something different with his life. He set about undertaking night courses in marketing and psychology, and reading about business and business people who had set up their own businesses. His first real business venture was selling smoke alarms door-to-door based on a bank loan of IR£1,000. He only sold one smoke alarm, but he learnt a key lesson – the need for effective sales and marketing techniques. Such techniques have become key ingredients in the growth of JFC. He then went on a professional selling course while working on the family farm, which provided the inspiration for his first product idea – a plastic-based feeding system for cattle – which essentially combined three feeding buckets. Concannon (2002) describes the moment as:

> I was feeding calves one day and though the job could get done more quickly if I fixed three buckets together…Other farmers saw the idea and wanted something similar, so I refined the design and got a plastics manufacturer to make the bucket.

He twice attempted to raise funding from IDA Ireland at the time; he was refused but received a grant of IR£1,800 from the Country Enterprise Board, which allowed him to buy some tools to finish off the plastic products that Rom Plastics had manufactured for him. Selling his feeding system was tough in the Galway region, so he decided to base himself in Listowel, Co. Kerry, where he set himself a target of twenty units per day selling to farmers. This proved successful, but he had yet to break into the co-op market, which was proving difficult in terms of getting a supplier code. Driving back from Kerry he stopped at the Mitchelstown Co-op in Garryspillane, Co. Limerick, where he gave a sales presentation. He succeeded in overcoming the co-op bureaucracy by becoming a supplier and getting a universal supplier code. In 1986, before formally setting up JFC, he won the Premier Award for Innovation at the RDS Spring Show, and an appearance on the *Late Late Show* helped increase the profile of the product.

JFC's first premises were in the Dumore Industrial Estate in Tuam, where Concannon installed the first rotational moulding machine. The British Plastics Association describes rotational moulding as a process used to produce hollow plastic products and consists of four phases of production: charging mould, heating and fusion, cooling, and unloading and de-moulding (see Exhibit 1). This process provides the advantages of economically produced large products, minimum design constraints, stress-free products and low moulding costs.

As activity increased Concannon purchased machinery from Grolly Dolls in Donegal for IR£4,000, which was one-tenth of their original value. Two years later the business moved to Weir Road, JFC's current location, as they had bought more machines in Scotland and needed additional space to store them. JFC began to recruit some of the engineers who had worked in the sugar factory to assist with the configuration of the machines and with new product development. Concannon's sales and marketing skills came to the fore as JFC attended various agricultural shows and other trade events, which offered opportunities, not only to sell products, but also to keep up with trends and happenings in the industry. These

shows also allowed John to scout for talent in his quest for international expansion in the UK, mainland Europe and Poland.

Product Development and Innovations

In 2005 the company turnover reached €30 million, based on a doubling of the company size in the previous years and sales of a range of products to various markets, including transport, equestrian, hospitality, materials handling, medical, agriculture, environment, road building and the construction industry (see Exhibits 2 and 3). This proliferation of product ranges was possible because the company has invested heavily in research and development (R&D), spending over €1 million in dedicated facilities, with support from Enterprise Ireland and ten dedicated R&D staff. Concannon (Ernst & Young, 2005) acknowledges this:

> R&D has delivered products and processes that have given us the advantage over the competition…For a small company to have 10 people in R&D is expensive but JFC are getting the return on their investment.

Such diversification and proliferation in new product development was in reaction to the identified decline in the agriculture market, as well as the seasonality of the products JFC sold into this market.

JFC has some notable world-class product innovations. For example, the CorriPipe™ was developed as a result of Concannon's visit to Kavanagh's Foundry in Birr, Co. Offaly, where they use recycled metal to manufacture their products. On the way back to Galway, Concannon passed trucks delivering concrete piping to Bord na Móna. From this visit, JFC developed a twin wall, high-density polyethylene pipe that is made completely from waste plastics, such as drink and shampoo bottles, and other suitable plastics. The advantages over existing concrete products is that there are reduced planning and labour costs associated with its laying, as it comes in 6 metre lengths, thereby reducing the joins, and can be easily cut to size. The CorriPipe™ is used for civil engineering, construction, agriculture and other sub-soil applications. This product has been used as part of the drainage system for sports field and golf courses. As Concannon (2004) explains:

> …The company's recycled corrugated drainage pipe – CorriPipe™ – has found favour with local authorities around Ireland. To date, the pipes have been used in major bypass construction projects in Drogheda, Sligo and Letterkenny. We are also negotiating for the supply of drainage pipes for the Naas bypass. It is great to be supplying pipes for all these major road construction initiatives, and we are also very proud that Galway County Council are using our CorriPipes™, which are made in the Tuam plant, for all major road building schemes.

With the implementation of EU directives on water management legislation, and an increase in flooding in Europe due to climate change, JFC developed the HydroCell™, which is used in the building of an underground stormwater storage tank, designed, supplied and installed on site by JFC. Concannon (2004) explains:

> HydroCell is used where there are problems with flash flooding. This product is a cost-effective way of alleviating flash flooding and in the storage of water underground.

Camtech Environmental Ltd, based in Shropshire in the UK, manufactures Casflo Packaged Sewage Treatment Systems, Proplex Pumping Systems, Kiosks and Housing, 'Fastrippa' Grease Interceptors and Standard Grease Traps, Process Vessels and Special Fabrications. The Casflo Sewage Treatment System is designed for applications where the installation of septic tanks is either impractical or unacceptable and a connection to the main sewer system is impossible. JFC have developed a number of patented features that ensure the simplicity of the operation while meeting the stringent guidelines of Environmental Protection Agencies, and their products can be installed by a building contractor. More recent products have been developed in terms of plastic vehicle protective inserts, which protects the inside of 4X4 and other commercial vehicles. These products are available, for example, in Nissan Patrol/Terranos, Toyota Land Cruisers, Isuzu Troopers and Mitsubishi Pajeros and pick-up trucks.

With its approved ISO 9001-2000 standard, and its experience in plastic mould making, JFC has developed the capability to develop custom mouldings for customers from idea through to design and on to production. Such experience has meant that JFC has been able to recently develop aquaculture products for fish farms, and now has the world market for the product based on their patented design. This development resulted from undertaking unsolicited, customised moulding work for client companies in Bulgaria. In addition to undertaking custom moulding, JFC also undertakes contract component production as it makes, for example, plastic covers and parts for McHale, Tanco, O'Donovan Engineering and Larkin Engineering. As Conconnon (2002) explains:

> Because we design and develop everything in house we are able to make a small number of items that can be rigorously tested before full-scale production. We make all the machine tools and moulds to minimize costs, so if something is wrong with the design, the fault is traced and rectified.

International Expansion

The international expansion of JFC has been relatively small in scale and has been built through market knowledge of people and competing products. Expansions in both Holland and Poland have come through personal contacts developed through attendance at international trade fairs, with initial operations being run out of apartments. The attendance at international trade fairs serves the dual purpose of selling JFC products and keeping a focus on market developments and changes. JFC's footprint outside of Ireland includes Sales and Distribution Offices in Shropshire (UK), Surhuisterveen (Holland) and Dabrowka (Poland) (see Exhibit 4).

For the first eleven years of its operation, JFC was focused on agri-products, but the foot-and-mouth crisis and BSE scares hit the company severely:

> Until 1998, we relied solely on agricultural products and we were exporting to the UK and mainland Europe. It was around this time that the agricultural sector was hit by a number of

> significant setbacks and the market went into decline. It taught us not to fully rely on one market.

JFC now exports to over thirty countries, including America, Japan, Korea and Australia, and continues to attend national and international trade shows (see Exhibit 5), with these exports accounting for over 60 per cent of the company's total sales.

JFC's first international acquisition was PD Roto Mouldings, an established UK company that had experienced some decline in fortunes. The attractiveness of this company was its customer base that it had build up over decades, which JFC successfully exploited to develop a presence in the UK market. In 2004, JFC won the *Sunday Business Post* Deal of the Year for their €5 million acquisition of Delleve Plastics and the Reprise Plastic Recycling firms in St Helens in the UK. Delleve Plastics recycles polyethylene and PET. A further investment of €3 million in raising its capacity ensures that it will become one of the largest recyclers in the UK by 2007. It will also have the capacity to reprocess 44 million pounds of plastic per year – a significant increase from its base of 17.6 million pounds in 2004. This additional investment was part funded by a grant of Stg£1.8 million from the British Waste Resource Action Plan (WRAP), which contributed to the development of automated sorting equipment which sorts bottles by colour and density. The recycled plastic is used by Delleve in the production of corrugated pipes and, in 2004, a further investment of €1.2million led to the installation of a Corma extrusion line, which allows Delleve to manufacture twin-wall corrugated pipes up to 23.6 inches in diameter. According to Concannon (2004):

> The potential for expansion [in bottle recycling] is huge and the markets for corrugated pipes across Europe are also growing at an enormous rate, as they are fast replacing concrete pipes in the construction and drainage projects. We are pleased with our progress to date. We want to expand our business. If we had not turned things around, the Delleve business wouldn't work well here today.

However, there is still further growth potential in this market, as only 62 per cent of UK local authorities collect plastic bottles, and less than 10 per cent of these bottles are then recycled.

In 2005, JFC acquired Knotwood Composities in St Helens in the UK for €1.5 million, which added to JFC's product portfolio of outdoor furniture, fencing and decking. This product division was re-branded as JFC Delta Decking and Fencing, as Concannon (Ernst & Young, 2005) explained:

> We see tremendous potential, especially on the international markets, for this latest range of items added to our ever-growing catalogue. The Delta Decking and Fencing products are long-lasting and maintenance-free. They are attractive and economical for the customers, while their manufacture from a mixture of recycled plastic and waste wood makes them environmentally friendly too.

In 2004, in tandem with these acquisitions, JFC opened a manufacturing plant in Poland about twenty kilometres from Warsaw, which represented a €4 million investment. The plant was opened by the Minister of State for European Affairs Mr Noel Tracey and the Polish Ambassador. As Concannon explains:

> We had to create a new product range which would be suitable for the Polish market and culture. We also had a language and distance barrier to overcome, but so far the results have been fantastic and our Polish plant is operating well ahead of targets.

By 2006, the Polish plant employed ten people and had two moulding machines in operation. The cost of the Polish operation is currently running at one-fifth of its Irish counterpart.

The Plastics Industry

While the Old Testament has references about natural materials such as filler, adhesives and coatings that were the precursors of the modern plastic materials industry, the exact year in which the plastics industry began is still debated among historians. Interestingly, the history of the rubber industry has a bearing on plastics, with hard rubber being discovered in 1851, which involved a distinct chemical modification of a natural material. However, it was not until 1927 that cellulose acetate, a thermoplastic, was introduced as a moulding compound and the 1930s saw the initial commercial application of thermoplastics: polyvinyl chloride, low-density polyethylene, polystyrene and polymethyl methacryle. World War II accelerated the demand for plastics due to the shortages of natural materials. Plastics are now used in a wide variety of industry sectors including, for example, consumer goods, furniture, construction and electronics, where there are about fifty different groups of plastics, with hundreds of different varieties. The American Society of Plastics developed standard marking codes to assist consumers identify and sort the main types of plastics (see Exhibit 6), with plastic consumption in Europe growing by 4 per cent per year and making up approximately 7 per cent of the average household dustbin.

In 2004 the plastics industry in the US was fourth among the top manufacturing industry groups, and accounted for 3.4 million jobs and $438 billion in shipments. The world's annual consumption of plastic materials increased from 3 million tonnes in the 1950s to over 100 million this decade, with Asia producing 44 million tonnes. Take for example the $800 billion packaging industry: plastics form an important material type in the flexible packaging market (bubble wrap, stand-up pouches, etc.), with over 70 per cent market share in European and North American markets. In the UK approximately six million tonnes of plastic products are used in different sectors of the economy, with packaging representing the largest single consumer of plastics (see Exhibit 7). The increase in energy costs has placed UK plastic manufacturers under increased competitive pressure, with the British Plastics Federation reporting in a survey that 44 per cent of their members were not in a position to pass on these increased energy costs to their customers in their selling prices, as Davis (2006) outlines:

> Last October, member firms incurred average increases of 58 per cent for gas, and 56 per cent for electricity. Many firms were faced with a staggering 100 per cent rise. Companies will go to the wall if they cannot secure any relief from this.

The Irish plastics industry employs 9,000 people providing products for a range of different industry sectors such as medical devices, automotive parts, consumer electronics, frozen food packaging and telecommunications equipment. An IBEC (2004) survey of the industry

reported that 60 per cent of respondents expressed confidence about the future of the industry up to 2008.

Overall, the worldwide plastics industry is facing an uncertain future, with increasing oil prices and weak consumer demand. The traditionally strong market for plastic resins (polypropylene (PP) and polyethylene terephalate (PET)) reported poor sales in 2005, attributable to their usages in the food and beverage industry.

The construction and agricultural machinery markets are among the key sectors in which JFC competes. Market growth in Europe has been sluggish, with no growth in this sector until 2004. A market growth rate of 4.6 per cent in 2004 valued the industry at $28.8 billion, with agricultural machinery accounting for 53 per cent of the market value (Datamonitor, 2005: 10). By the year 2009, industry analysts expect the market to have grown to $30 billion. The UK market for construction and agricultural machinery has faired better in recent years, with a compounded annual growth rate of 2.2 per cent from 2000–2004, with agricultural machinery accounting for 71 per cent of the market share. Industry forecasts indicate that this sector will only grow by 1.3 per cent by 2009, valuing it at $5 billion. The global environmental and facilities services market also grew by 4.3 per cent, with solid waste management activities recording a market share of 51.8 per cent and an estimated value of $102 billion. In global terms, the US accounts for 40 per cent, with Europe accounting for 31 per cent of market value. The sector is forecast to grow by 4.5 per cent year on year up to 2009, with its value doubling to $247.3 billion.

The Future

The plane begins its decent to Dublin Airport. The rich orange glow of the evening sunset lights up the plane's cabin. Reflecting on the last eighteen months and on the many miles travelled, Concannon is pleased with JFC's export drive of equestrian products to East Asia, and with his successes in attempting to gain market share for their thermal plastic water troughs in Norway, Finland and Sweden. In 2001, JFC was involved in the DHL Export Awards and, in 2005, the company was awarded the Best Environment Initiative from the British Plastics Association. Also in 2005, John Concannon was selected as one of the finalists in the Ernst & Young Entrepreneur of the Year Award.

New product development continues apace with pipefittings and accessories for CorriPipe™ (certified by the British Board of Agrimont), mussel floats and plastic products for the Salvation Army and water treatment equipment. Anticipating the type of questions that he will be asked after his presentation to the group of budding entrepreneurs, Concannon reflects on the major issues facing the company. The ongoing rapid expansion will mean that JFC faces the challenge of maintaining a small entrepreneurial company culture and balancing this with developing an organisational infrastructure and human capital that will support growth. As with previous presentations about JFC, Concannon is again keen for this event to highlight the role of his staff at JFC and their role in growing the business:

> It's a great credit to the staff and the whole team working at JFC that, through their efforts, our group, with its headquarters in the west of Ireland, continues to expand its activities

> internationally….Staff are encouraged to feel that they are vital cogs in an organisation which is constantly expanding.

Successful international expansion in the UK and Poland has tested the management team. The JFC culture, as well as changes in the legislative environment, has provided some new market opportunities. The rise in fuel prices and the bulky nature of some of the products provide ongoing challenges for JFC. In meeting these challenges, Concannon knows that he needs to focus on nurturing and developing managerial talent in order to bring JFC through the next phases of international expansion. Like any other business in this situation, the issue of succession comes to mind. The future offers opportunities to diversify into new product areas and for further acquisitions. As the aircraft is about to touch the ground, Concannon is thinking of the words that he will use for tomorrow's presentation which can best summarise the future challenges for JFC. As the air hostess begins to welcome passengers to Dublin and the plane taxis to its gate, Concannon jots down 'The future challenge for JFC is *continuously hammering home the difference*.'

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Exhibit 1

The Rotational Moulding Process

Charging Mould A pre-determined amount of polymer powder is placed in the mould. With the powder loaded, the mould is closed, locked and loaded into the oven. The powder can be pre-compounded to the desired colour.
Heating and Fusion Once inside the oven, the mould is rotated around two axes, tumbling the powder – the process is not a centrifugal one. The speed of rotation is relatively slow, less than 20 rev/min. The ovens are heated by convection, conduction and, in some cases, radiation. As the mould becomes hotter the powder begins to melt and stick to the inner walls of the mould. As the powder melts, it gradually builds up an even coating over the entire surface.
Cooling When the melt has been consolidated to the desired level, the mould is cooled by air, water or a combination of both. The polymer solidifies to the desired shape.
Unloading/De-moulding When the polymer has cooled sufficiently to retain its shape and be easily handled, the mould is opened and the product removed. At this point powder can once again be placed in the mould and the cycle repeated.

Exhibit 2

JFC Product Categories and Listings

Product Category	Sample List of Products
Agri-Products	Drink Bowls; Water Troughs; Dairy Hygiene; Feed Troughs; Calf Hutches; Feed Equipment; Footbaths; Equine Equipments; ATV Tipping Trailers; Wheel Barrows; Accessories
Materials Handling and Storage	IBCs; Durabins; Transitanks; Haztanks; Distribution Trolley Range; Spring Lift Trolley; Distribution Bins; General Containers; Drums and Containers; Polytanks
Laundry	Standard Linen Trolleys; Customised Linen Trolleys
Recycling/Environment	Bottle Banks; Waste Oil Storage; Alu Foil Bank; Drink Can Banks; Battery Banks
Construction	Surface and Stormwater Drainage Solutions; Gullies; BioMedia; Grease Trap; Radon Sumps
Oil Storage	Oil Tanks 1,100 litres and 1,500 litres; Slim Line tanks; Bunded Tanks
Transport	Road Bollards; Junction Definition Posts; Road Cones

Source: <http://www.jfc.ie>

Exhibit 3

Examples of JFC's Product Range

Exhibit 4

The JFC Group

Activity/Location	Website
JFC Manufacturing (Europe) UK Sales and Distribution Office – PD Roto Mouldings (Oswestry, Shropshire, UK)	www.jfcuk.com
JFC Delleve Plastic Recyclers, Reprocessors and Manufacturers (Warwickshire, UK)	www.delleve.co.uk
JFC Poloska SP Polish Sales and Manufacturing Office	www.jfcpolska.com
Dutch Sales and Distribution Office	www.jfceurope.com
Plastic Recycling Plant (St Helens, Merseyside, UK)	www.delleve.co.uk
Camtech Environmental Ltd (Telford, Shropshire, UK)	www.camtechenvironmental.com

Exhibit 5

International and National Trade Fair Attendance 2006

March
8 March: Irish Waste Water and Environment Show, Dublin, Ireland
May
10–11 May: Balmoral Show, Kings Hall, Belfast, Northern Ireland
June
14–16 June: Attended by JFC UK Office – CIWM Recycling Exhibition, Torquay, Devon, UK
July
18–21 July: Attended by JFC UK Office – Royal Welsh Agricultural Show, Builth Wells, Pows, Wales
August
13 August: Tullamore Show, Charleville Estate, Tullamore, Co. Offaly, Ireland
September
21–22 September: Attended by JFC UK Office – National Agricultural Centre, Stonleigh, Warwickshire, UK
27–30 September: National Ploughing Championships, Tullow, Co. Carlow, Ireland
22–25: Attended by JFC Holland Office – Agro Expo, Ismir, Turkey
October
14 October: National Dairy Show, The Green Glens Show Complex, Millstreet, Co. Cork, Ireland
19–20 October: Attended by JFC UK Office – Fencing and Landscaping News Exhibition, the Newark Showground, Newark-on-Trent, UK
27–29 October: Attended by JFC Holland Office – Kone Agria, Jyvaskyla, Finland
November
9–11 November: Plan Expo (Stand A5), RDS Simmonscourt, Dublin, Ireland
December
13 December: Royal Ulster Winter Fair, Kings Hall, Belfast, Northern Ireland

Source: <http://www.jfc.ie>

Exhibit 6

Plastic Types by Common Usage

ASP Symbol	*Name*	*Usage*
PET	Polyethylene terephthalate	Fizzy drink bottles and oven ready meal trays
HDPE	High-density polyethylene	Bottles for milk and washing-up liquids
PVC	Polyvinyl chloride	Food trays, cling film, bottles of squash, mineral water and shampoo
LDPE	Low density polyethylene	Carrier bags and bin liners
PP	Polypropylene	Margarine tubs and microwaveable meal trays
PS	Polystyrene	Yoghurt pots, foam meat or fish trays, hamburger boxes, egg cartons, vending cups, plastic cutlery, protective packaging for electronic goods and toys

Exhibit 7

UK Plastics Consumption by Sector (2005)

Sector	**Consumption as a Percentage**
Packaging	35%
Building and Construction	23%
Electrical and Electronics	8%
Furniture/Houseware	8%
Transport	8%
Agriculture	7%
Toys/Sport	3%
Mechanical Engineering	2%
Medical	2%
Footwear	1%
Others	3%

Source: British Plastics Association