



IET CELEBRATES 30 YEARS!



Marcus in 1990

In 1990, Nelson Mandela was released from prison, Tim Berners-Lee published the first web page and scientists discovered a hole in the Ozone Layer above the North Pole. For many, the latter was the first time that environmental emissions had demonstrated an ability to affect their lives, and as a consequence environmental protection began to attract a modicum of political and media attention.

Environmental legislation was in its infancy. In the United States, the 1990 amendments to the Clean Air Act addressed toxic air pollution and established a national permits program for stationary sources, and increased enforcement authority. At the same time, the UK's Environmental Protection Act 1990 established a regime for waste management and the control of emissions into the environment, and similar regulations were being developed in many regions of the world.

Under the new laws, regulated processes were obliged to comply with an environmental permit and demonstrate compliance with emissions limits. The motivation for doing so was largely financial, because compliance failure could result in fines and even plant closure. However, international concern for the environment was starting to grow, so failure to protect the environment became a potential threat to brands, and leading businesses started to develop corporate social responsibility policies that included a commitment to environmental protection.

In order to demonstrate compliance with the new environmental regulations, and to be able to measure performance and evaluate improvement measures, environmental monitoring would be essential. This became a major driver in the instrumentation market, which in turn created the need for a publicity vehicle for manufacturers to publish information on new products, as well as technical articles and case studies.



WVEM 2005

The Birth of International Environmental Technology (IET)

Back in November 1974 Michael Pattison launched 'Labmate' - a magazine created to provide laboratory staff and managers with an insight into the latest technologies, analytical instrumentation and methods. Since that time, Labmate has become the global 'go-to' place for information on laboratory equipment. Labmate's success was boosted by other synergistic innovations that included laboratory conferences, exhibitions and market-specific publications for sectors such as health & safety.

In 1989 Michael's eldest son Marcus joined the company in the sales department. Marcus worked in the advertising sales team and established friendships that would last for decades to come. Unusually, for that time, he had a keen interest in the environment and was conscious of the growing raft of regulations that was being created around the globe, and recognised that this was creating an enormous demand for laboratory instruments which could be used and operated out in the field for environmental analysis. So, in 1990 when HNU, one of Marcus' clients from the USA, highlighted a gap in the market for an environmental monitoring magazine, he jumped at the opportunity and launched 'International Environmental Technology' in a unique A3 Tabloid format. By this time, all of the company's publications were printed in colour and IET quickly became a highly recognisable magazine; coming from the Labmate stable, it was an instant success with readers and advertisers, and is still the largest and most read environmental monitoring magazine today. Building on the strength of IET, a number of new publications were launched in the following years, including AET - the first and only environmental publication covering Asia. The company also purchased 'Essential Environment' - the media output from Environmental Protection UK (EPUK) which provides detail on developments in UK and EU environmental policies and regulation. The Group also publishes a range of books including, for example, the CoGDGM Guide to Gas Detection.

The success of these publications resulted in numerous awards from the Herts Chamber of Commerce, and the Queen's Award for Export.

1990 to 2020 - what's changed?

The inaugural edition of IET included a wide range of advertisers, many of which still advertise in the journal today. For example, the advertiser list included Campbell Scientific,

Exhibiting in Germany



Camlab, Casella, Crowcon, Draeger, Delta T, Hach, Horiba, Ion Science and Metrohm, plus many others that have since been the subject of mergers and acquisitions with groups such as Thermo, Xylem, Teledyne, Honeywell and Danaher.

John Clements (now succeeded by his son James) was Managing Director of the Signal Group throughout most of IET's history. Looking back, he says: "The main market for environmental monitoring in the early 90s was with national or regional organisations, many of which ran their own laboratories that tested field samples. At that time, most of the industrial applications for instrumentation were for health and safety purposes, so we had to develop technologies that could be used in the field and in processes. To begin with, this was driven by the methods and standards adopted by the US EPA, but in Europe this gradually moved to standards developed in Germany France and the UK."



First edition of IET from 1990

Casella advertised in the first ever edition of IET, and remains an advertiser today. Looking back, Global Marketing Manager Tim Turney says: "Casella has been providing precision instrumentation since 1799, but it is certainly true that our product development accelerated significantly in the last 30 years, driven in part by new environmental and occupational hygiene regulations."

Comparing today's technology with older versions, Tim provides an intriguing example: "Prior to 1990, a sound level meter would have been about 50cm long, requiring an external datalogger and costing £5-6k. Today, similar Casella devices are so small that they can be hand-held or even wearable, offering an array of advanced, built-in features - all at a fraction of the previous price, when inflation is taken into account. These technological advances have made instruments significantly more reliable and easier to operate, which means that less training is necessary, and monitoring equipment now provides a better understanding of health and environmental challenges in the workplace and outdoors."

With an 80-year history of innovation in scientific instrumentation, PerkinElmer Inc. is well placed to reflect on the development of

laboratory instrumentation for environmental applications. Dr Fadi Abou-Shakra the company's Director of ICP-MS and AAS portfolios shared: "The evolution of environmental regulation in the early 1990s helped to shape the development of instrumentation approaches and best practices. For example, around that time, we launched the ELAN® 6000, which was the first ICP-MS designed specifically for environmental testing. The instrument was developed for ease of use as well as low maintenance and was adopted by many labs around the world.

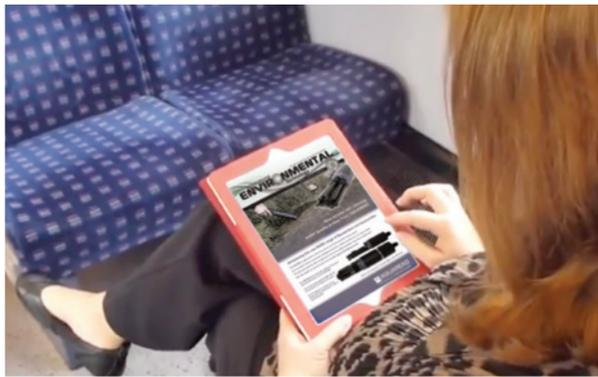
"As the years passed, environmental regulations gradually lowered the limits for elements such as arsenic, chromium, lead etc. so it became necessary for us to develop instruments with far greater sensitivity."

Founded more than 50 years ago, the company CHEMetrics attributes its success to a clear focus on accuracy and ease of use – key issues that have remained consistent throughout the company's evolution. CHEMetrics President Bruce Rampy says: "Over the years we have dramatically increased the number of tests that our kits are able to perform, and the variety of applications has broadened significantly. This has resulted in major growth worldwide as customers have come to appreciate the simplicity and reliability of our tests."

As a manufacturer of sensors for both occupational safety and environmental instruments, the development of Alphasense's product range has reflected the changing requirements of the market. Director Arthur Burnley says: "Following a period of research and development, Alphasense started to deliver gas sensors in 2003. Initially, the demand was for compact, reliable sensors for parameters such as oxygen and carbon monoxide.

"Turnover grew quickly to £1 million in 2004, but has since expanded to over £20 million as we extended our range and dramatically increased the number of instrument manufacturers that now rely on our sensors. In the early years our focus was occupational safety, but this expanded as the demand for environmental monitoring grew around 2008/9. Responding to market requirements, we developed toxic gas sensors, VOC sensors and very small, low cost, particulate sensors. At the same time, customers in the environmental sector increasingly demanded sensors with lower detection limits, and in response we developed ambient gas sensors with PPB levels of sensitivity.

"Our success has certainly been due, in no small part, to our ability to develop products that meet changing market demands, but it has also been vitally important for us to stick to our key goals; which are to develop sensors that are reliable, smaller, lower in cost, and use less power, whilst offering market leading levels of accuracy, repeatability and sensitivity."



Envirotech Online

were able to invest in product development to make instruments smaller, faster and easier to use. Operational costs were also reduced as manufacturers lowered service requirements and increased the interval between calibrations. More recently, smart sensors have further advanced these capabilities and facilitated improved real-time control of processes. In addition, Big Data and the IoT have dramatically enhanced access to monitoring data; providing process operators with better insights and more efficient control.

In this new competitive environment, instrument providers jostled for attention and needed a high profile media resource to explain the advantages of their latest technologies and to emphasise their points of differentiation. The emergence of IET (and AET) was therefore timely and the magazine quickly became the market leader in all regions of the world outside the USA.

Advertising in the 1990s and beyond

When IET was first published, it included 'Reader reply cards' that readers were able to cut out and post back to IET requesting more information on a featured product. Many of IET's more senior readers will remember the excitement of receiving a large pile of reply cards, because this meant that a promotion had been successful! In those days, marketing was simple; money spent with IET could be directly attributed to specific promotions and ROI was easy to calculate. Later, the arrival of websites would muddy the water; generating enquiries that were less simple to track.

As the purchasers of environmental instrumentation employed more digital methods to gather information, Marcus and his team invested heavily in the group's online capability. Today, the IET eNewsletter reaches over 42,000 readers around the world; feeding website visitors to www.envirotech-online.com which attracts over 53,000 visitors every month. As a result, content on the website searches astonishingly well; delivering substantial searchability and reputational benefits to the companies that are fortunate enough to be featured on the site.

Whilst advertisers are no longer able to measure the height of their enquiry pile, the IET digital team provides them with online access to real-time reporting and insights for the traffic generated by their content. For example, advertisers are provided with a personal login that provides them with detailed response data for each of their activities, including PR, editorial, adverts and newsletters.

The range of online media has grown enormously, significantly leveraging the value of publicity in the organisation's hard-copy publications. These include specialist websites and eNewsletters focusing on key issues in testing, analysis and monitoring.

Exhibitions and Conferences

The rapid growth of environmental regulation led to an increased requirement for internationally accepted Standards, such as those developed under the MCERTS scheme in the UK. A number of stakeholders were involved in the development of MCERTS including the Environment Agency, the National Physical Laboratory (NPL), the Source Testing Association (STA), process operators and instrument manufacturers. In order to meet the needs of this group, the publishers of IET were invited to help organise, operate and promote regular conferences and exhibitions which enabled the sharing of knowledge and advice on the new regulations, standards, methods and technologies. These events are now widely acknowledged as being fundamentally important to the successful implementation of new environmental regulatory requirements.

The first conference, known as 'em-CERTS 2002', took place in Bretby, UK, and focused on the monitoring of emissions to air. Since that time, the event has grown beyond all recognition and now addresses emissions to air as well as ambient air quality and a wide range of associated subjects such as abatement, modelling and meteorology. Under this new expanded air quality and emissions format, the event became known as 'The AQE Show.' The Coronavirus pandemic prevented the occurrence of AQE in 2020, but the next AQE Show will now take place 'virtually' on 13th and 14th October 2021. Then, in 2022, the live event will return to Telford on the 12th and 13th October.

The standardisation of water monitoring (flow and quality) followed closely behind the development of air monitoring, and resulted in the



inaugural WWEM (Water, Wastewater & Environmental Monitoring) event in 2005, which was also organised by ILM Exhibitions (the organisation that was created by Marcus specifically to manage these focused events). The WWEM events are now run concurrently with the AQE Show so that anyone involved with environmental monitoring can exploit the synergy between these two events. Coronavirus therefore also prevented the WWEM 2020 event and WWEM will follow the same plan as AQE: virtual event 13/14 Oct. 2021 and live 12/13 Oct. 2022.

The live AQE and WWEM events in 2022 will retain some virtual elements, and as such will become hybrid events; offering all the advantages of a visit to the world's largest specialist event on environmental monitoring, with the convenience of online access to some of the resources, for those that are unable to attend in person.

With testing, monitoring and analysis as their central themes, in addition to WWEM and AQE, ILM Exhibitions now organises a wide range of conferences and exhibitions including PEFTEC for the petrochemical sector, a Methane Monitoring Conference, CEM (Europe), CEM India, ICMGP (mercury) and HTC (International Symposium on Hyphenated Techniques in Chromatography and Separation Technology). These events complement the group's online and printed publications, providing a wealth of opportunities for process operators, regulators, academia, researchers, consultants, instrument manufacturers and service providers to exchange knowledge and learn about the latest developments.

Summary

Looking back over the last 30 years, Marcus Pattison says: "When we first launched the magazine, there were very few European environmental regulations, so the launch of IET was a massive risk, but I am so glad that we did and I am extremely grateful to those organisations that have supported us over the last 30 years. In those early days, environmentalists were regarded as sandal-wearing dreamers, but today they advise governments and international corporations, helping to fight what many regard as the greatest challenge we face.

"I hope that we have helped to improve the quality of environmental monitoring around the world and our success is due in no small part to the team that we have developed. We opened an office in Australia to cover the Asian market in 1996, and in total, the IET sales team has a combined experience of over 125 years! I hope this means that they must be enjoying their jobs, but it also means that our customers know that we understand their business and in many cases they develop long-term relationships with us.

"The ways in which people gather information on environmental monitoring has changed dramatically since 1990, and we have responded accordingly; offering print publications, websites, eNewsletters, social media, webinars, conferences and exhibitions.

"With a record global human population, loss of species and habitat, increased frequency of extreme weather, greater understanding of the effects of pollution and better public/political awareness of environmental issues, the need to manage the environment better will continue to be a major priority. Effective management is not possible without monitoring, so I am excited to see what the next 30 years will bring!"



In many cases, the core measurement technologies for monitoring water, wastewater and air, have changed very little. Electrochemical sensors, spectroscopy, infrared and chemiluminescence analysers were already in use, but instrument capability has changed beyond all recognition. Notable new technologies include optical sensors that do not suffer from drift – in the measurement of dissolved oxygen for example. The arrival of personal computers greatly facilitated the configuration and management of monitors, and dramatic improvement in communications have meant that real-time data can be made available to anybody anywhere.

In the 1980s and 90s it was common for instruments to be configured by a computer; often via DOS (Disk Operating System) which demanded at least a basic knowledge of programming. Fortunately, graphical user interfaces (GUIs) quickly developed and instrument management became more intuitive.

New environmental regulations increased the demand for monitoring data, and the market for environmental monitoring equipment grew rapidly. Consequently, instrument manufacturers

Barrack Obama becomes President of the USA

The EU Industrial Emissions Directive (Directive 2010/75/EU) came into force

Felix Baumgartner breaks sound barrier by freefalling from a record 128,000ft

The Paris Climate Agreement entered into force

Britain votes to leave the European Union

Air quality data during COVID-19 reveals the extent of stationary and mobile source emissions

2009

2011

2012

2016

2017

2020