

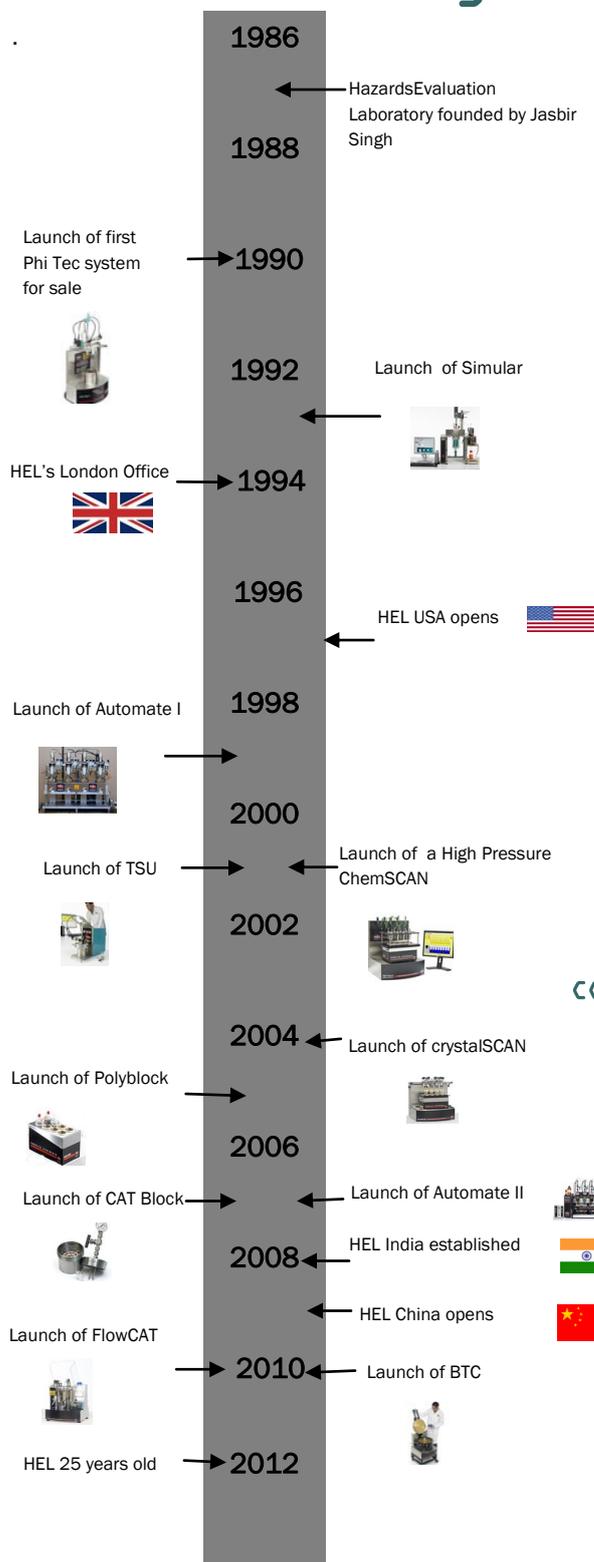
September 2012

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News and updates
from HEL Group

Process Chemistry News

Celebrating 25 years of innovation



HEL 25 year Timeline...

This year marks the 25th Anniversary of HEL. Founded in 1987 as a consultancy company, HEL has rapidly become a world leader in Chemistry Automation and the supplier of choice for hazard evaluation equipment and services. The time line on the left chronicles the major events and technology developments in our 25 year history. Many of the technologies have evolved to meet our clients changing demands and even now can be seen as platforms on which to build client solutions rather than off the shelf systems. Our extensive development program means that we offer the widest range of chemistry automation available on the market today. By keeping pace with changing trends our technology now addresses applications ranging from adiabatic calorimetry to catalysis screening, from batch to flow chemistry. The market never ceases to change so we have to adapt accordingly. One of our core outlet's has been the pharmaceutical industry in Western Europe and USA but this is no longer the case. Increasingly our customer base is shifting to Middle and Far East, India and China currently the most significant. Eastern Europe (especially Russia) and South America are growing too, though more slowly. In terms of applications, we are becoming much more involved with petrochemical and refining companies as well as the new focus on energy including bio-fuels and battery technology. Our historical strength in custom engineered pressure systems and our origins in thermal hazard evaluation are both central to enabling this shift seamlessly.

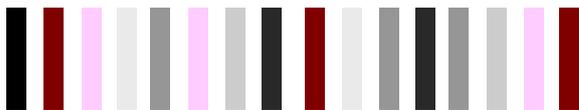
COMING EVENTS: visit www.helgroup.com/events

Don't miss out on the following events this year:

24- 25 September 2012, Astra Zeneca, Chesire, UK	24 October 2012, Ruhr, Germany	24-26 October, Nice, France
A Celebration of Organic Chemistry	LAB-SUPPLY	Batteries 2012

Images above illustrate a selection of our items on display at these events.





HEL Group

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On our 25th Anniversary our first system returns home !

22 years ago we installed our first system, the Phi –TEC and after many years of active service it returns home for refurbishment and upgrade. Listed as E001 (all HEL systems have unique “E” numbers), the Phi– TEC was the first system developed by HEL following on from 2 years of consultancy in hazard evaluation. It was installed at Establishment D'Ispra, Italy but moved on to the University of Messina and is destined now for work at the University of Padova.

Many of the HEL team involved in this development are still with the company and the return of E001 has brought back happy memories. Jasbir Singh, Managing Director, recalls fondly the production and delivery of the device, “It was our first system we delivered and of course there was some excitement and trepidation at the time. Now we are coming close to 1,500 systems worldwide and have come along way since then”

Phi– TEC was designed to give a modern alternative to the classic ‘ARC’ originally developed by Dow Chemicals. Today’s Phi-TEC range share many of the same features with the first version, adiabatic tracking of fast exotherm with pressure compensation being added a short while later. The Phi– TEC I and Phi– TEC II are now both widespread and the Phi-TEC derived Battery Testing Calorimeter (BTC) is attracting great interest with the rapid pace of battery development.

If you want to find out more information about our range of adiabatic calorimeters please visit our website www.hazards.co or contact us directly on 020 8736 0640.



Quick facts on HEL’s Phi-Tec System

	Phi-TEC I	Phi-TEC II
Features	<p>Uses glass, stainless steel or hastelloy test cells with 7ml to 11 ml typical sample volume</p> <p>Magnetic stirring for sample agitation</p> <p>Direct temperature measurement inside the test cell</p>	<p>Uses glass or metal test cells with 10m typical screening volume. Up to 120ml for more detailed studies at low thermal inertia.</p> <p>Mechanical agitation</p> <p>Sample addition at any stage of experiment, to allow closer replication of processes and accidents</p>
Data Produced	<p>Exotherm onset temperature with sensitivity of 0.2 °C/minute temperature rate</p> <p>Pressure increase</p> <p>Global reaction kinetics</p> <p>Time to maximum rate (TMR)</p> <p>SADT (used in storage transportation studies)</p> <p>Kinetic data (eg for TMR or TNR calculations)</p>	<p>Have accurate ‘onset’ temperature of exotherm with benefit of larger sample choice and better stirring.</p> <p>Low phi-factor system to replicate large scale equipment.</p> <p>Runway data suitable for diers relief line sizing</p> <p>Determination of flow regime (2 phase or single phase)</p>



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