

ET ENTERPRISES LIMITED

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Sensor Development Director

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European Sales Manager

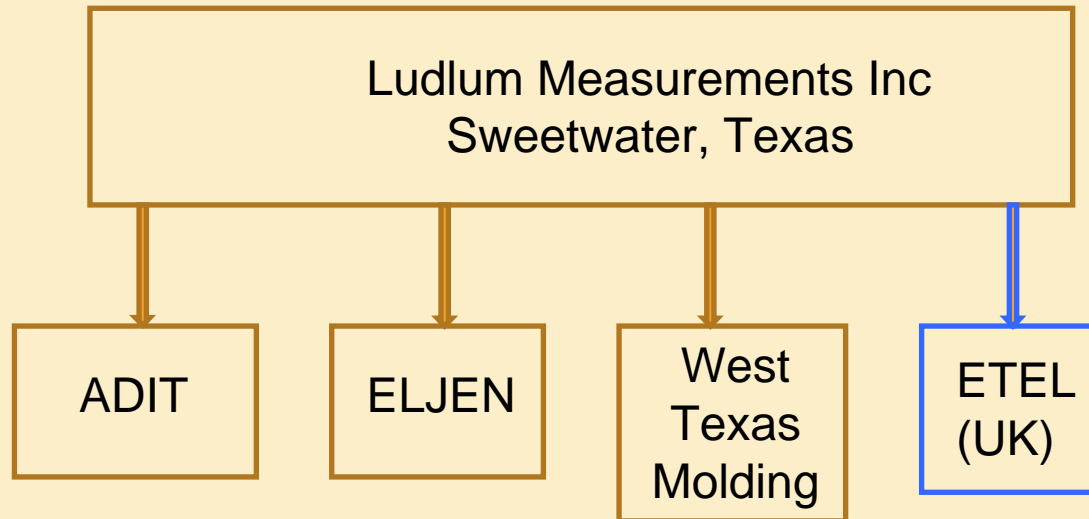


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catch the light

- 1930s - As part of EMI, developed light sensing techniques
- 1953 - First commercial Photomultiplier Tube was produced (aimed at the nuclear detection market)
- 1970s – Merger with Thorn Electrical Industries - Thorn EMI formed
- 1994 – Management Buy Out - Electron Tubes Ltd formed
- 2000 - Developed Low temperature PMT's
- 2007 – PMT and Accessories business acquired by Ludlum Measurements Inc
- 2008 – Relocated to Uxbridge, Middlesex



business units operate independently

Ludlum Company Overview

In Business since 1962

Almost 500 Employees

Engineering Excellence

Vertical Manufacturing



Sweetwater, Texas

Committed to:

- Reliability
- Durability
- Affordability



Don Ludlum – Founder & President

Ludlum Measurements

Radiation Detection & Measurement



Sweetwater, Texas



Product Lines

- Portable Survey Meters & Radiation Detectors
- Contamination Monitors
- Sample Counting Systems
- Gateway Systems
- Area Monitors

Markets Served

- Nuclear Power
- National Labs
- National Security & Emergency Response
- Metals Industry
- Solid Waste
- Medicine
- Mining

Distribution Network

- Representatives in 78 countries

www.ludlums.com

Back



ADIT

Photomultiplier Tubes for Radiation Detection



Sweetwater, Texas



Product Lines

- Photomultiplier Tubes
- Sockets
- Bases
- Voltage Dividers

Markets Served

- Industry
- Scientific Community

www.aditpmt.com



Eljen Technology

Organic Scintillators



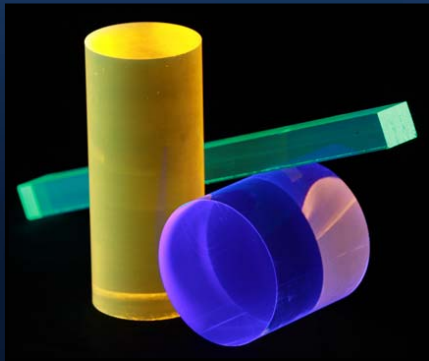
Sweetwater, Texas

Product Lines

- Plastic Scintillators
- Liquid Scintillators
- PMMA & UVT Material
- Loaded Scintillators
- Paints
- Neutron Detectors
- Wave Shifting Plastics
- Zinc Sulfide Shifting Plastics
- Optical Cement, Greases, Adhesives etc.

Markets Served

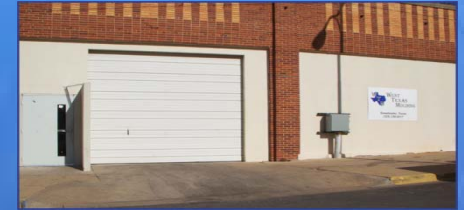
- Industry
- Research



www.eljentechnology.com

West Texas Molding

Plastic Injection Molding & Assembly



Sweetwater, Texas



Specialty

- Short Run Production
- Insert Molding
- Prototype Molding
- Hot Stamping
- Custom Coloring

In-House Services

- Tooling & Design
- Mold Fabrication
- Product Assembly
- Product Packaging
- Product Warehousing
- Shipping to End User



www.wtmolding.com



Photomultiplier manufacturing



ET Enterprises, UK

- Pmts for specialist applications
- 19 mm to 225 mm diameter
- 110 to 900 nm sensitivity options
- Good SER p/v
- Low dark noise for photon counting
- QE to 30%
- Ultra-low background glass and all-quartz options
- 200 to + 175 deg. C operation capability



ADIT, USA

- Pmts for industrial applications
- 13 mm to 135 mm diameter
- plastic scintillator
- Inorganic scintillator
- Photon counting
- Additional manufacturing capacity available



Flexible dual site manufacturing for high volumes

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Complementary capability in UK and US

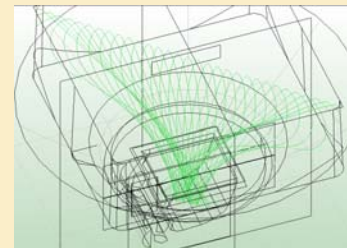
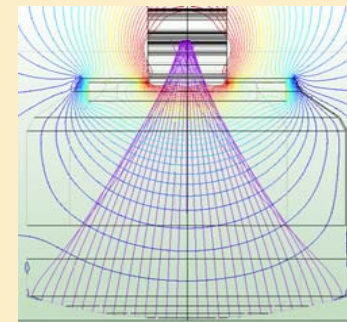
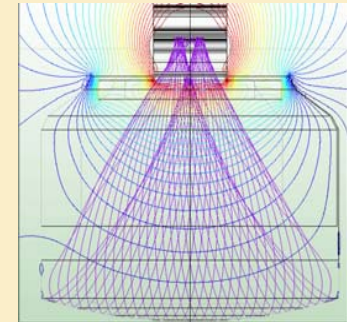
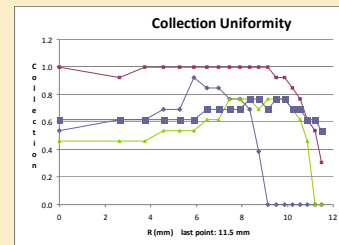
3D electron optical simulation

3D mechanical design

Environmental testing (pressure, vacuum, vibration)

In-house Prototype and production tooling
for 1 off to 100,000 off

Photomultiplier Engineers from ETEL , ADIT, and Burle-Photonis



Selected products

Hemispherical pmts from 25 mm to 225 mm

6 – 14 dynodes to match gain and linearity requirements

Quartz and UV-glass options up to 130 mm diameter

Also working on larger diameters

30 mm to 200 mm diameter pmts for down to -200 deg. C

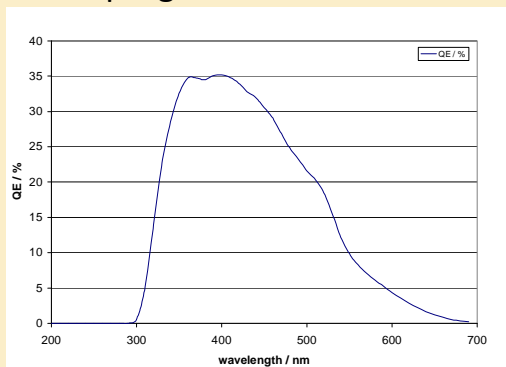
Ultra-low background water resistant glass

Pressure resistant bulb designs


Quartz and UV-glass options up to 130 mm diameter

Development of high QE pmts

Work in progress as shown below



catch the light



ETEL is a SME based in the UK

Eligible for national and EU funding schemes for collaborations

We design and manufacture pmts, HV power supplies, and associated electronics

We have a track record of collaboration with HEP projects

We can manufacture in the UK and USA to suit the requirement

We are part of a family of companies specializing in radiation detection systems, plastic scintillators, pmts for industrial applications, and special moulded parts

We are interested in collaborating with ASPERA groups to provide excellent detectors



Thank you

catch the light