

# *Praesto*<sup>TM</sup> (v.) to excel, to surpass

Investments in Wales deliver cost efficiencies for bioprocessing

MediWales

Dr Patrick Gilbert  
R&D Manager  
Life Sciences



# Purolite — Global Reach

- Founded in 1981 (Over 30 years in Wales)
- World's 2<sup>nd</sup> largest supplier of ion exchange resins
- 40+ sales offices throughout the world
- 1200 employees
- 3 global manufacturing sites
- 5 global R&D sites



# Purolite – 25 years in life sciences

## Life Science Products

Purolite APIs and excipients

Chromalite® synthetic chromatography resins

Lifetech™ resins for enzyme immobilization

## Regulatory Experience

Over 25 years experience producing pharmaceutical APIs in our FDA-inspected cGMP production site

Our regulatory staff strictly enforces compliance conformance, monitoring & maintenance.



# Life Science API Customers



***Baxter***



**Bristol-Myers Squibb**



**FRESENIUS  
MEDICAL CARE**



**Boehringer  
Ingelheim**



**Abbott**  
A Promise for Life



TEVA PHARMACEUTICALS LTD



**NOVARTIS**



# Purolite Life Sciences

Our Aim —

- Develop technologies to enable pharmaceutical researchers and manufacturers to reach their goals quickly, economically and reliably.
- Through cost effective resins help in the development of more affordable and accessible treatments to the global population.
- *Praesto*<sup>™</sup> maximises efficiencies and cost savings in bioprocessing.



# Purolite Life Sciences — UK Investments

**\$3M investment 2015** state of the art R&D laboratories & pilot plant expansion

**\$10M investment 2016 - UK** based agarose manufacturing facility

Committed to UK growth – Linking R&D with **high value manufacturing** in Wales

Creating local skilled jobs

Cardiff University partnership with student placement & UCL PhD student placement

Member of the **BioIndustry Association & Life Sciences Hub Wales**

Sit on the BIA Manufacturing Advisory Committee (MAC)







# Global Life Science Drivers

## Demographic trends in developed & emerging markets

- ↑ Aging population/increased life expectancy
- ↑ Population growth
- ↑ Rise of non-communicable diseases (Type 2 Diabetes - obesity/life style changes)
- ↑ Increased demand of medicines

New concerns –

3 year old developed type 2 diabetes

Potential link with obesity driving 700,000 cancers (CRUK)

## Healthcare costs not sustainable. Governments, health providers focusing on:

1. Reduced costs
2. Increased value
3. Access for all
4. Better patient outcomes



Biosimilars

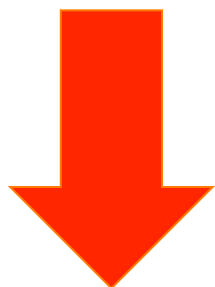


Reduced R&D Cost

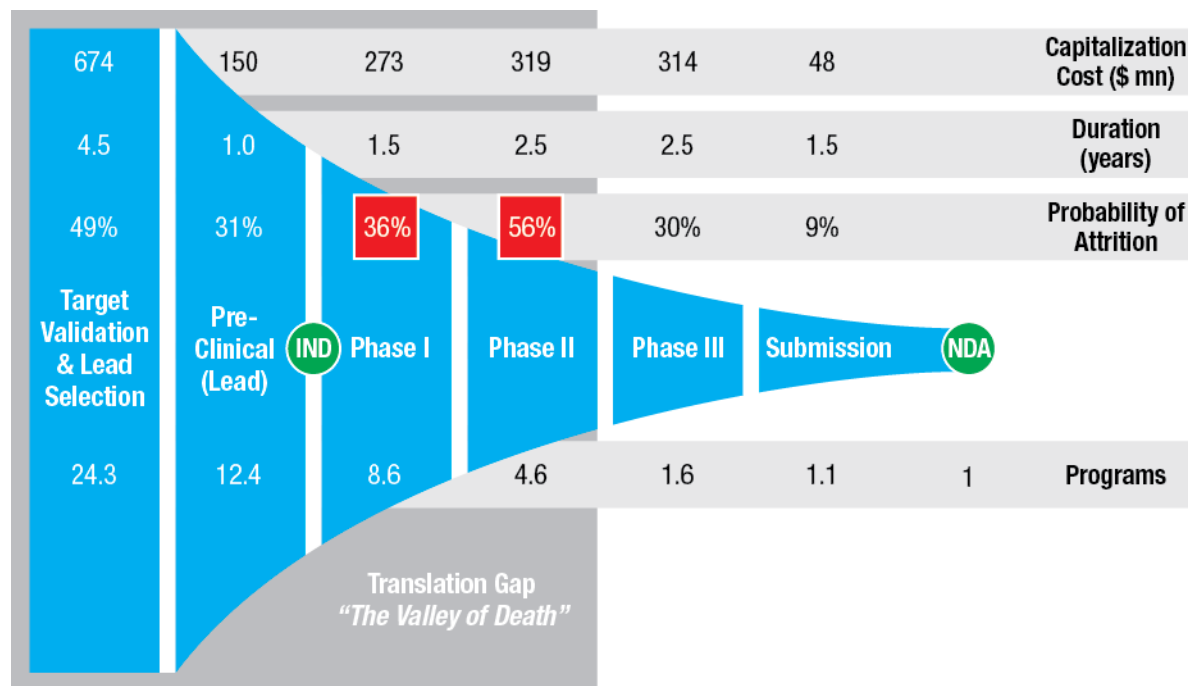
Biosimilar market worth \$25B by 2020  
2013-4 saw 40% increase in pipeline (700 in development)



# Pharma challenges



Reduce R&D costs –  
approval rates of  
new therapies is low



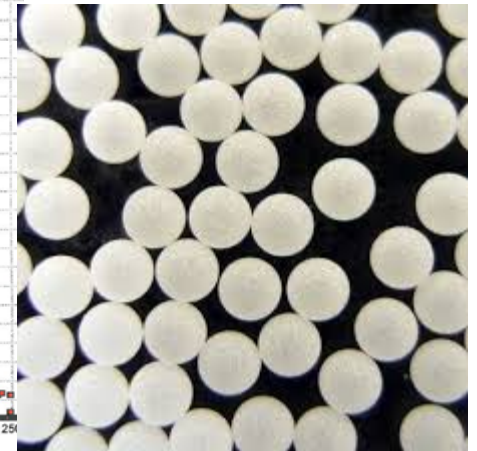
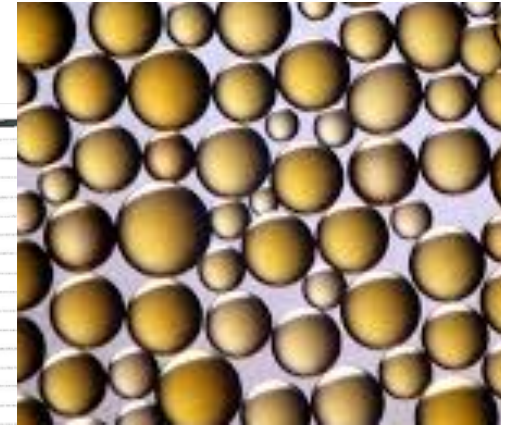
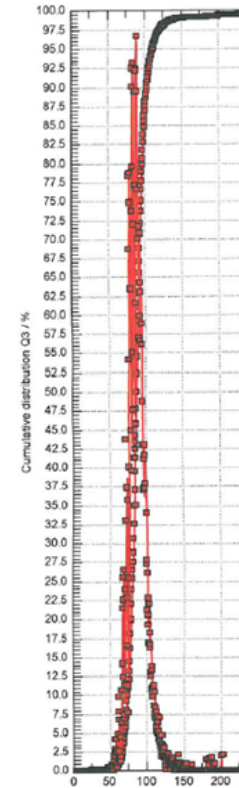
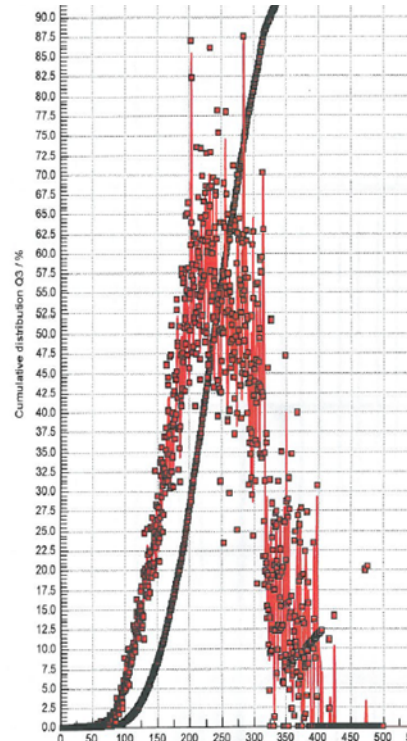
## High failure rates at PI & PII

- PrA affinity regarded as highest consumable raw material
- Resins offer 100s of cycles, but PI & PII are used less than 20 times
- High cost – low value (cycles used)

# New Technologies - Jetting

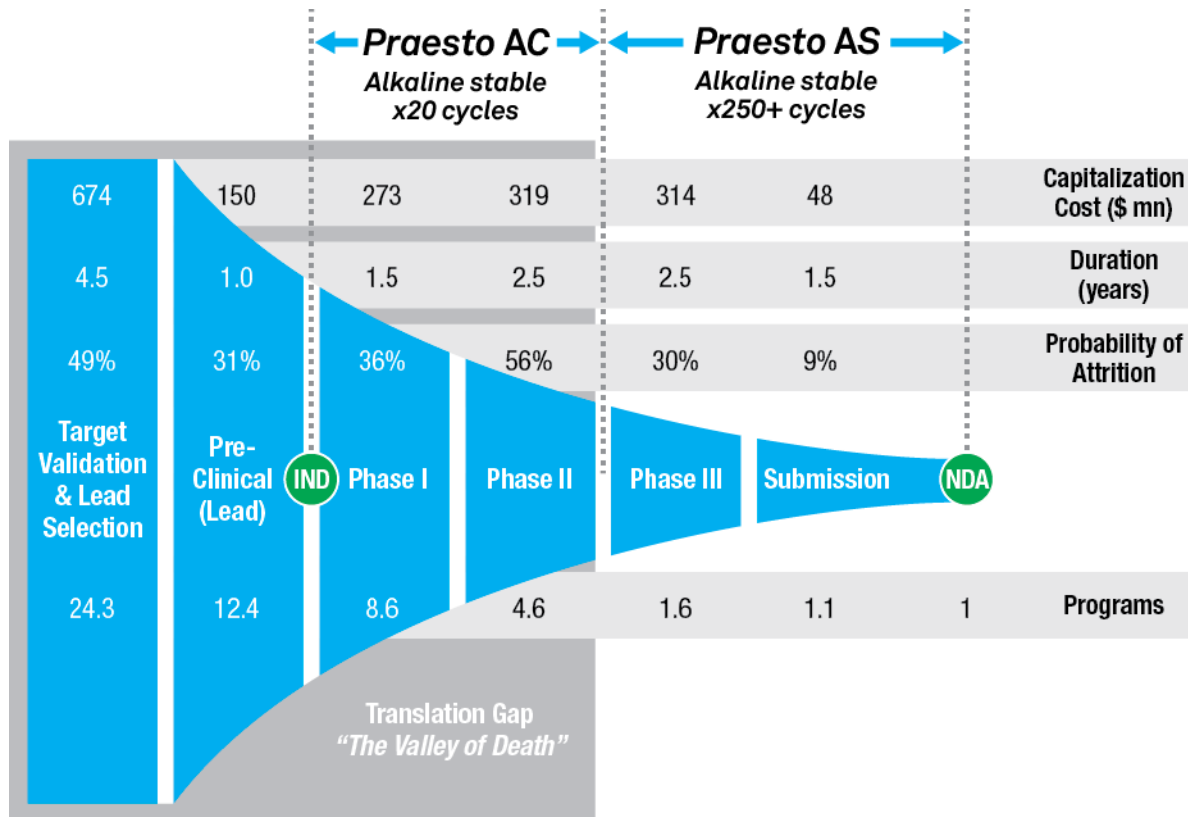
Proprietary technology developed to produce monodispersed resin developed by Purolite

- Improved performance
- Greener production
- Tailored products to meet customer needs



# In Summary

- ✓ *Praesto* resins to match clinical stage requirements
- ✓ When your risk is the highest, we deliver process excellence with balanced economy



Purolite is more than a resin company.  
It's a solutions company.

