

Green Chemistry and Commerce Council GC3
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Building International Collaborations: The need for (re)Education

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An Agenda to Mainstream Green Chemistry

- scale green chemistry innovation;
- **elevate the importance of green chemistry in education and research; and**
- develop and pass smart policies that support markets, research, and innovation.

Research

Industry

Networking

Education

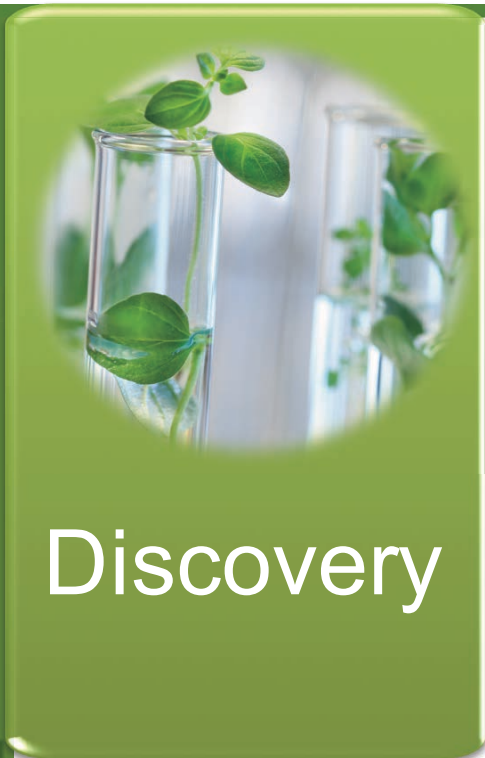






- ❖ **Top 5 UK-ranked Chemistry Department Guardian 2016**
- ❖ **Internationally-leading Green Chemistry research centre dedicated to creating genuinely sustainable supply chains for chemical and related products**





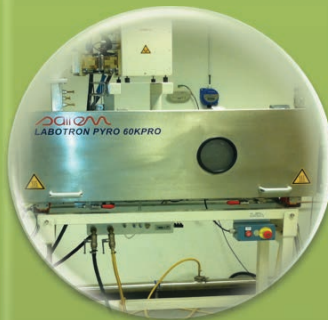
BDC **Biorenewables**
Development Centre



Green Chemistry Centre of Excellence



**Renewable
Resources and
Materials**



**Microwave
Chemistry and
Processing**



**Natural and
Bio-derived
Solvents**



**Food Supply
Chain Waste
Valorisation**



**Clean Synthesis
and Platform
Molecules**

Education, Continual Professional Development and Networking

Research

Industry

Networking

Education

MSc in Green Chemistry & Sustainable Industrial Technology



Principles & Technologies

Principles, Environmental Impact, Chemical Engineering, Catalysis for Green Chemistry, Alternative Reaction Media, Energy, Clean Synthesis, Renewable Resources, Greener Products

Supporting Courses

IP, Business Opportunities, Green Chemistry Presentations, Legislation Presentations and Literature Research

Research Project & Oral Presentation

In collaboration with Industry

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NOT THREE BUT FIVE PILLARS



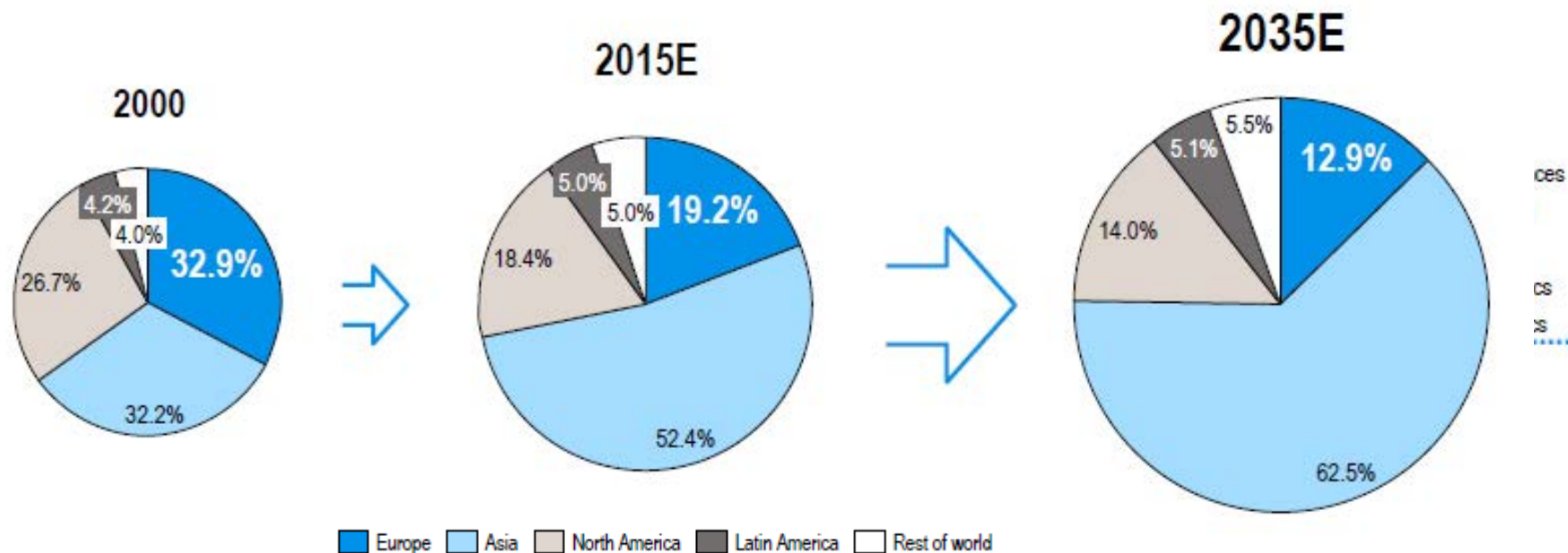
**“Transforming our World: the 2030 Agenda for Sustainable Development
UN General Assembly, 25-27th September 2015**



Total chemical market real value forecast, 2012-2035F [EUR bn]

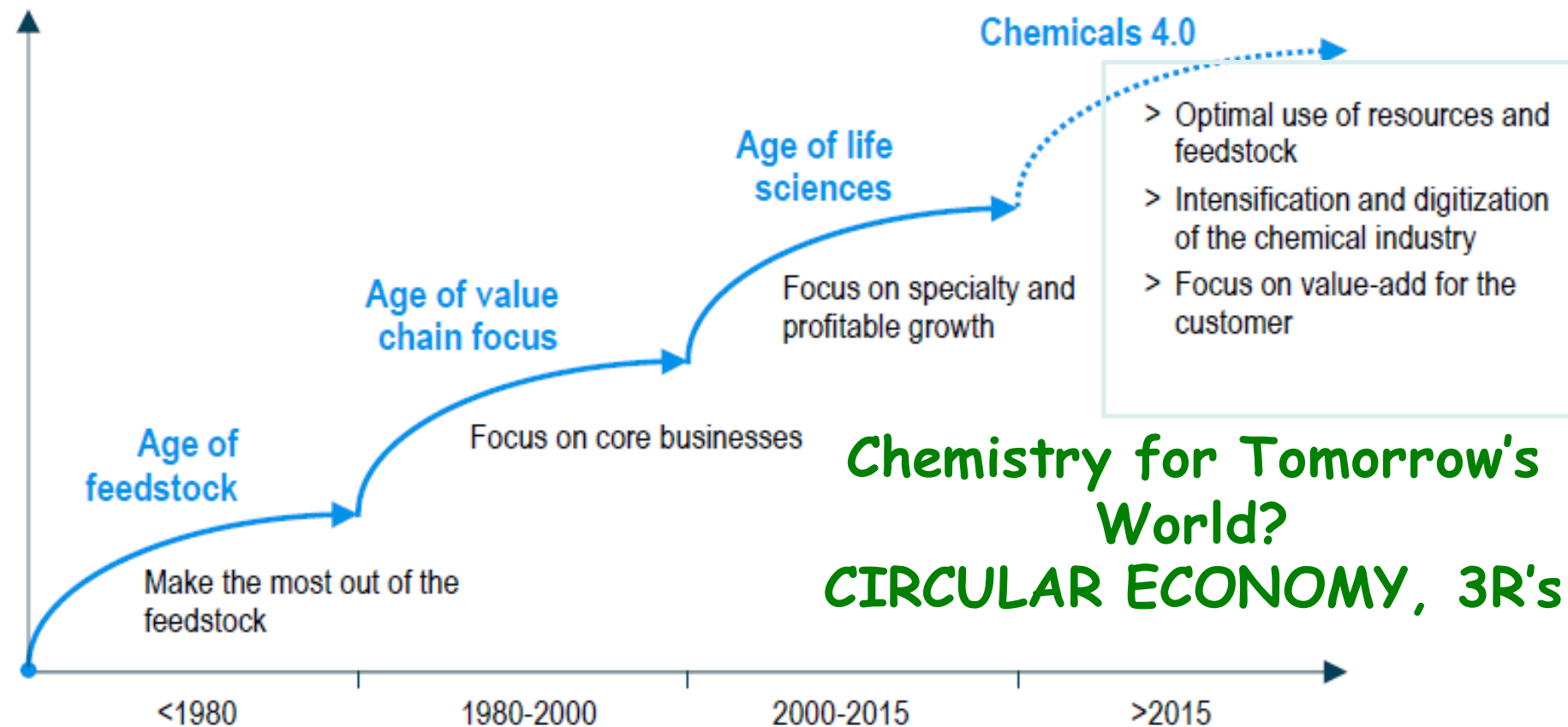


Market share Global sales [% share]



Source: Dr Alexander Keller, Roland Berger Associates

Long term view on chemical industry transformation



Source: Dr Alexander Keller, Roland Berger Associates

(Re)Education



DEMAND

Green refill

“Manufacturers are snapping up chemists who can make their products more environmentally friendly.”

“No longer is the most valuable chemist the one who sits in the lab. It’s the one who knows about application and how to think about safety in the design phase,”



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A Global Network of Green Chemistry Centres

Networking

Education



(Re)Education and Partnerships



To **partner** with established and fledgling Green Chemistry Centres the world over, with an emphasis on:

- Networking and Conferences
- **Education and Outreach**
- **Industry engagement**
- Funding Opportunities: Fellowships, Travel and Research

<https://g2c2.greenchemistrynetwork.org/>



2013: 8 Centres 2014: 21 Centres 2015: 31 Centres



4th Annual
Workshop and Symposium
18th-19th July
Sichuan University

Green Chemistry for China



Network of Early-career Sustainable Scientists & Engineers



<http://www.sustainablechemists.org/>

A movement of scientists and engineers connecting and learning to tackle global sustainability challenges

Research

Industry

Networking

Education



Leading a knowledge-based the transition to green manufacturing and circular economy in the chemical industries



Knowledge



Communication



Business



THANK YOU

“All the world’s a stage, And all the men and women merely players”

As You Like It, Act II, Scene VII, William Shakespeare



The need for global connectivity for the common cause

LET'S PLAY TOGETHER TO PROTECT OUR STAGE

