



SYNTHESIS AND SOLID STATE PHARMACEUTICAL CENTRE
Innovation Through Collaboration

Prof Gavin Walker
SSPC Director
May 2017

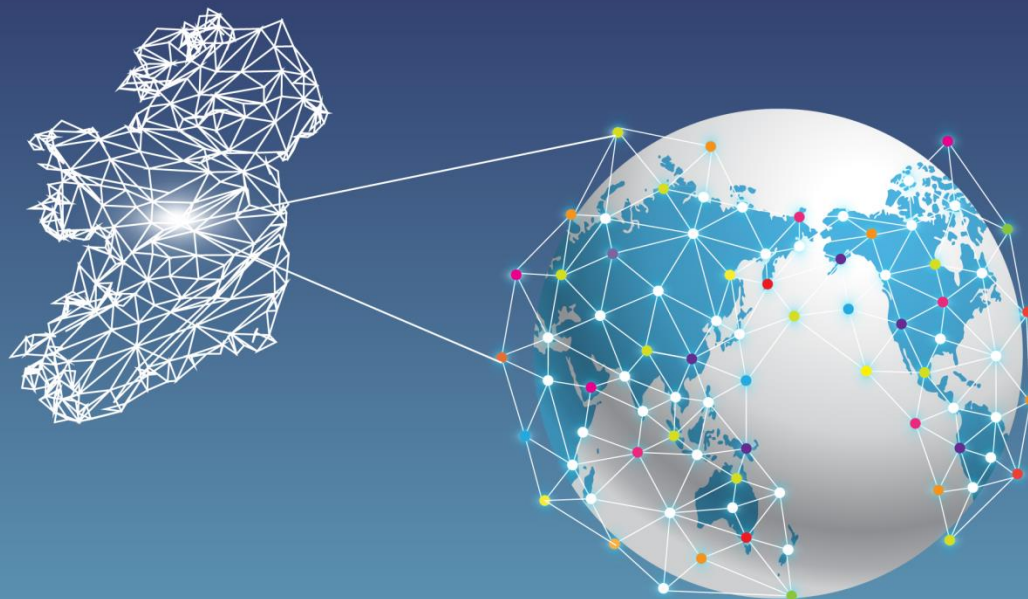
PharmaChem Sector in Ireland

Global Market	\$1.08T, 2012 ➡ \$1.6 T, 2020 (annual growth 7.8%)
Exports	50% of Irish goods Exports (€50B 2013) 52% of all Global Medicines
Corporation Tax	€1 Billion (25% of total corporation tax)
Employment	25,000 direct + 25,000 Indirect
Education	50% are 3 rd level graduates 25% of all PhDs in Irish industry
Companies	Over 120 companies – 13 of top 15 6 of top 10 blockbusters manufactured in Ireland
Compliance	Unrivalled record globally
Investments	€3Bn investment 2016/7, 2,000 new jobs

Pharma - the Jewel in Ireland's economy today

OUR MISSION

TO POSITION IRELAND
AS A GLOBAL HUB FOR
PROCESS INNOVATION
AND ADVANCED
MANUFACTURING IN
THE PHARMACEUTICAL
INDUSTRY



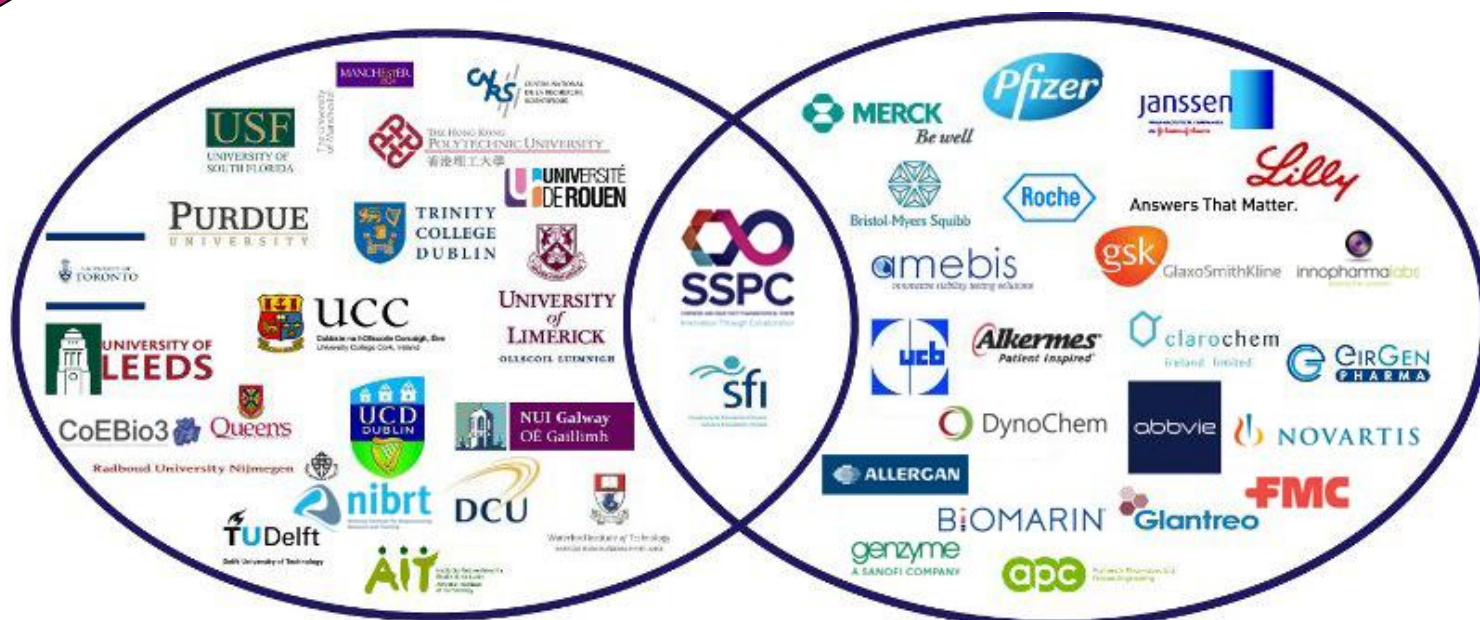
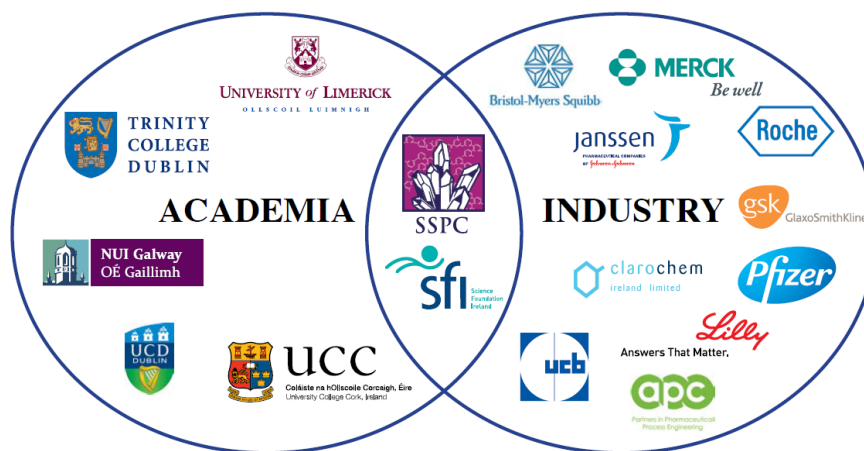
Building on Success

SSPC1

10 Industry
5 RPOS
€8M

SSPC2

24 Industry
9 Irish RPOS
€45M



Molecule to Material to Medicine

SSPC Team

9 Research Performing Organisations



24 Industry Partners



12 International Academic Collaborators



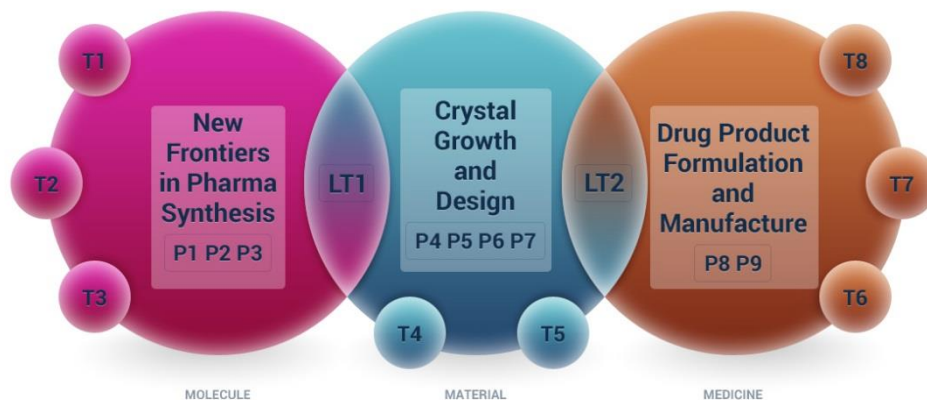
Research Programme

Molecule to Material to Medicine

- 3 Research Strands
 - New Frontiers in Pharma Synthesis
 - Crystal Growth & Design
 - Drug Product Formulation & Manufacturing

- Research Program
 - 9 Platform Projects
 - 8 Spoke Projects
 - 2 Linker Projects

- 3 Spoke projects
 - MOMEnTUM
 - Continuous Crystallisation Isolation & Drying
 - Advanced Biopharmaceutical Technologies



Education, Training & Outreach

EDUCATION

Post-Primary

- 'Innovations in Medicine'
 - (TY Module)

Third Level

- Structured PhD
 - 3 accredited, discipline specific modules



H2020



€500K+ for E&O

TRAINING

Masterclass Series

- Chemical Safety Masterclass
- 100 industrial H&S site leaders
- Keynote by John Bresland
 - Former CEO US Safety Board



OUTREACH

- National Crystal Growing Competition
 - >500 entries nationally annually
- RTE's *The Late Late Show*



People & Knowledge

SFI PROFESSOR



Prof. Michael Zaworotko

- Attracting international leaders
- First SFI Research Prof
- Featured in *Science*

SSPC SPIN OUT



APC has created **160 new** jobs in Ireland



INDUSTRY-RELEVANT

70% PhD graduates to industry;
National avg. **32.3%²**

45 Student
Placements in
industry



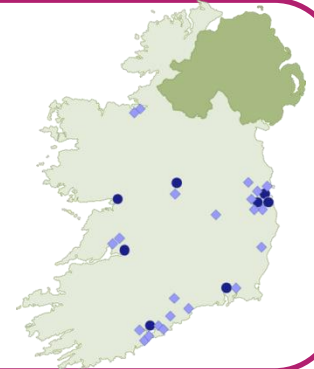
GLOBAL SOLUTIONS



Importing Problems



Exporting Solutions

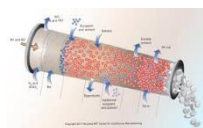


2 Higher Education Authority (2010) 'What do graduates do', Dublin: Higher Education Authority, [online], available: http://www.hea.ie/sites/default/files/what_do_graduates_do_class_of_2008.pdf

International Benchmarking

SSPC is competitive with leading international centres with regard to:

- Publications
- Industry collaborations
- High-calibre research teams



- **SSPC** is a leader in promoting greater gender equality



UNIVERSITY of LIMERICK
OOLLSCOIL LUIMNIGH

- **SSPC** Research Performing Organisations are members of the Athena SWAN charter



Trinity College Dublin
Coláiste na Tríonóide, Baile Átha Cliath
The University of Dublin



SSPC Workshop Series

Nov 2013

Marine Institute/Pfizer/Eli Lilly

94 attendees

“1st SSPC Continuous Processing Workshop”

Jun 2015

UL/Roche

105 attendees

“PAT in Pharmaceutical Processing”

Feb 2017

Druids Glen/APC

133+ attendees

“CM2017: Adoption of continuous manufacturing in the Pharmaceutical industry”



(BIO) PHARMA IRELAND

Innovating Medicine Manufacture



‘The Future of (bio)pharmaceutical Manufacturing’

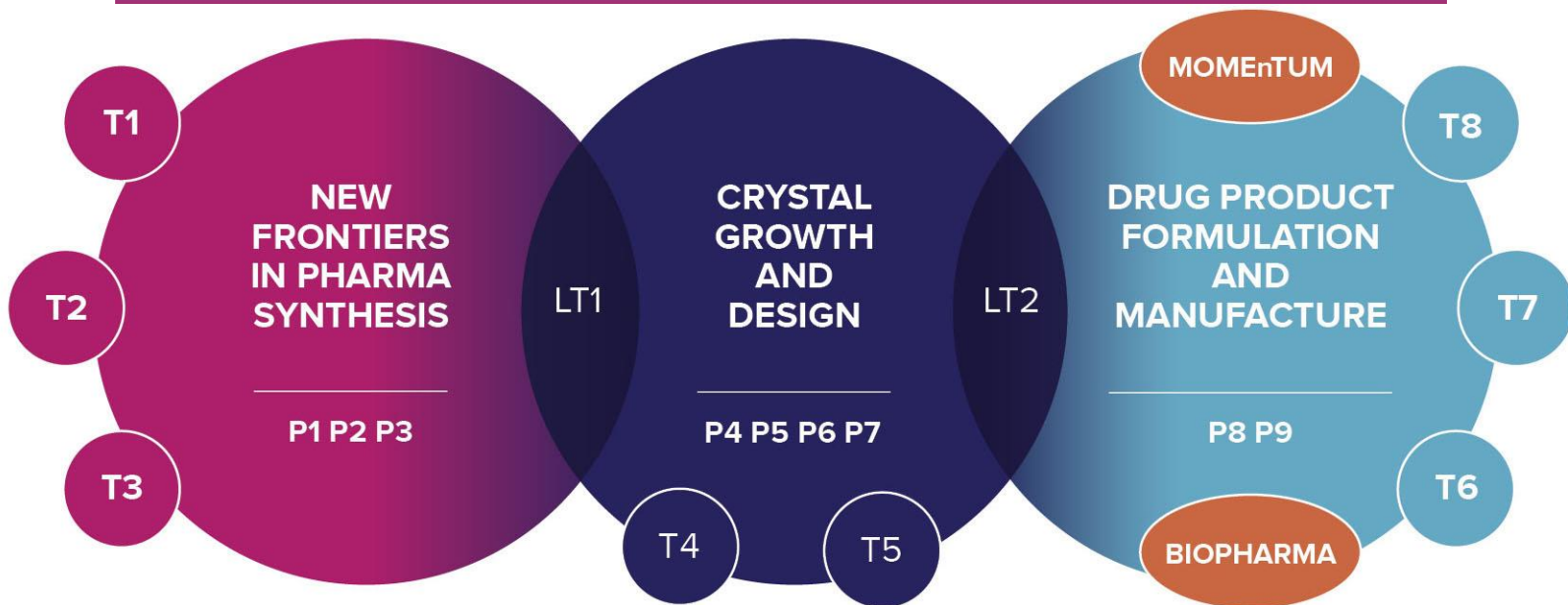
28 February 2017, Brussels

www.sspc.ie

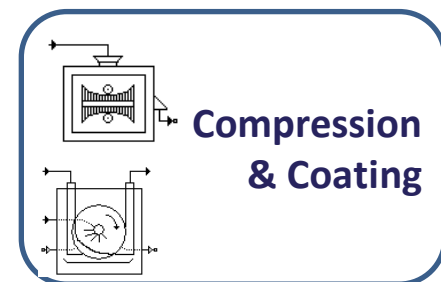
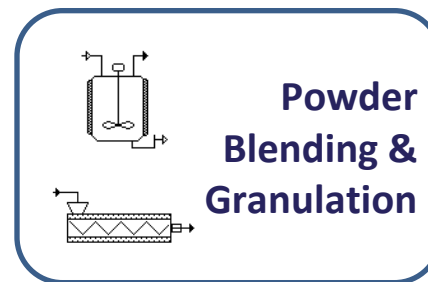
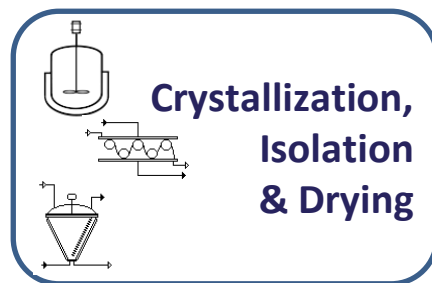
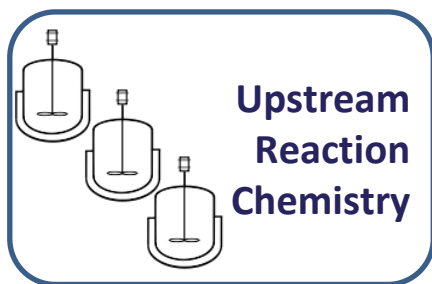
INNOVATION THROUGH COLLABORATION



SSPC in continuous processing



Progress Towards Continuous

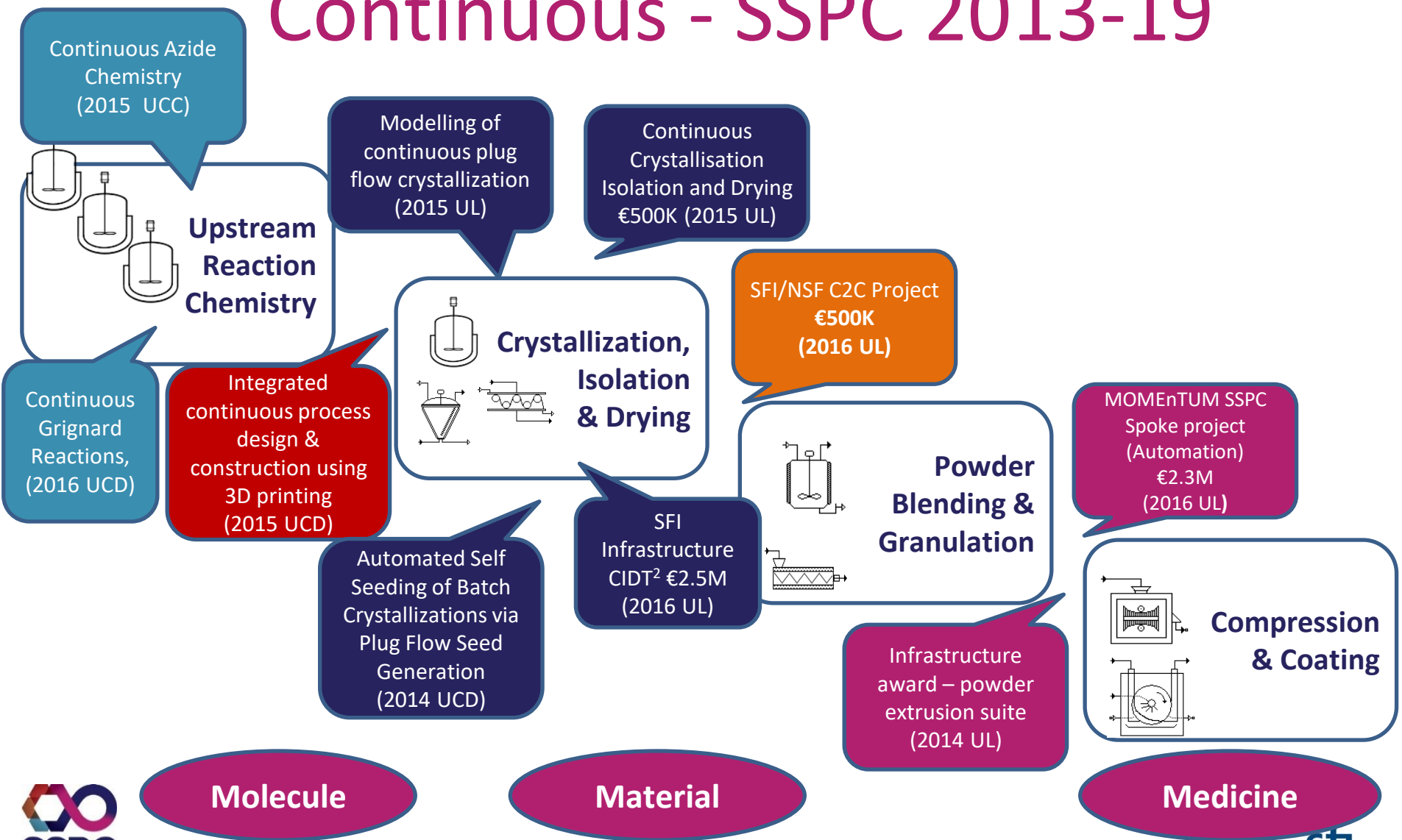


Molecule

Material

Medicine

Continuous - SSPC 2013-19



SSPC by Numbers

6	Years of Funding
9	Research Performing Organisations
12	International Collaboration Centres
21	Funded Projects
24	Companies supporting the research
43	Post-Doctoral Researchers
38	Principal Investigators
45	€Million euro direct Funding
33	€Million euro leveraged funding (€8.6M EU)
63	PhD Studentships
350	Community
7	Operations support

