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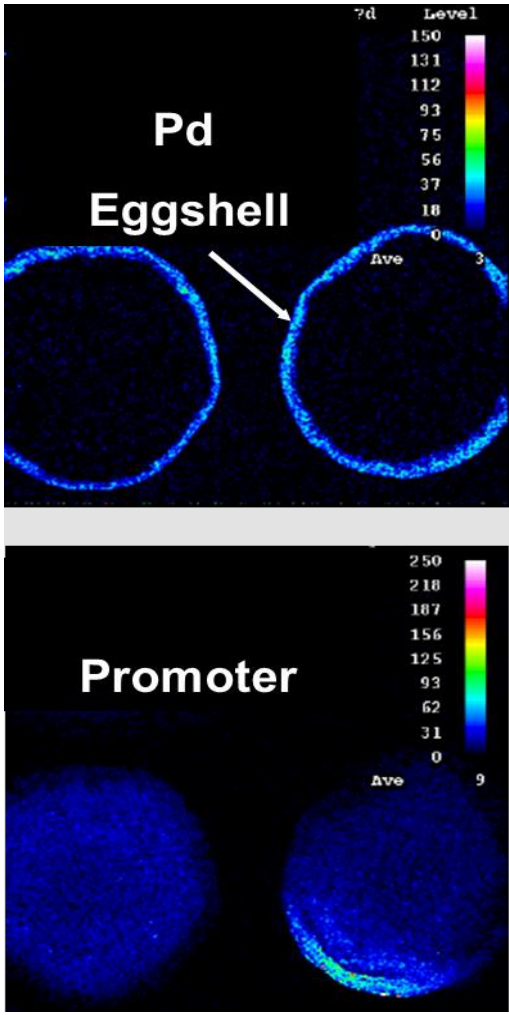
Johnson Matthey
Inspiring science, enhancing life

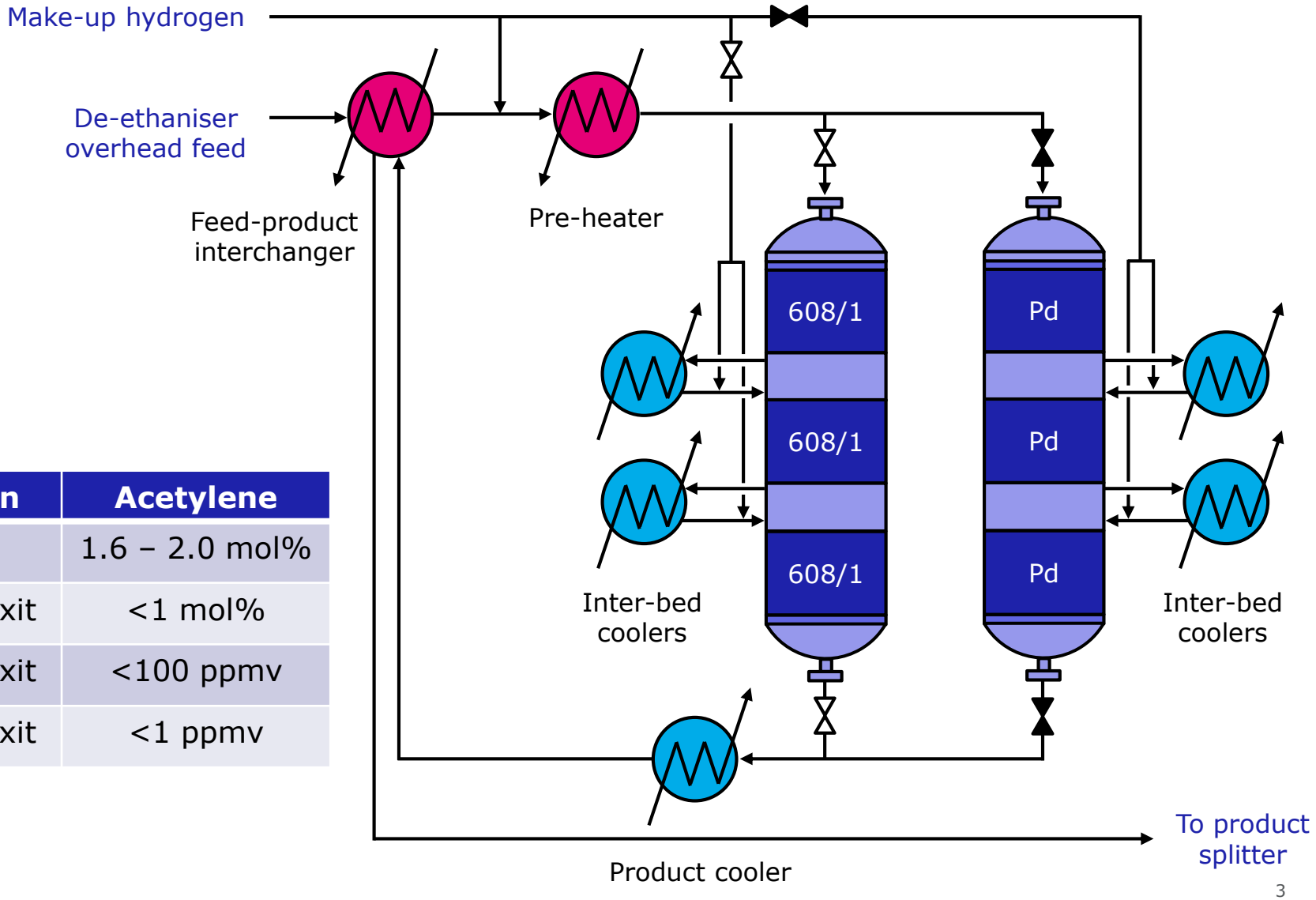
Introducing **PRICAT PD** 608

Introducing **PRICAT PD** 608 series

- Johnson Matthey have an mature legacy in base and precious metal catalysis
- Over the past few years we have leveraged our expertise to develop a full range of selective hydrogenation catalysts for olefins
- **PRICAT™ PD** 608 series developed for tail end acetylene hydrogenation
- Catalyst properties optimized to give stable performance over time, which has been proven at an industrial scale



Reference plant operation



Position	Acetylene
Feed	1.6 – 2.0 mol%
Bed 1 exit	<1 mol%
Bed 2 exit	<100 ppmv
Bed 3 exit	<1 ppmv

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Feedback on performance

	Cycle 1	Cycle 2	Cycle 3
General	Cycle 1 run within expectations from previous catalyst.	Move towards more selective operation. Forced to return to conservative operation due to issues not related to the catalyst.	Challenging conditions due to continuous changes in hydrogen supply.
Activity	<1 ppmv performance specification achieved during steady state operation.		
Selectivity	Catalyst operated conservatively. Selective operation not targeted.	Move towards more selective operation. Forced to return to conservative operation due to issues not related to the catalyst.	Selectivity profile matched cycle 2 despite challenging conditions
Operability	Stable operation. Copes well with changes in feed conditions including varying hydrogen sources.		
Green oil	No green oil observed at start of run. Some green oil collected towards end of cycle.	No measurable green oil seen.	Normal amount of green oil seen.
Regeneration	Catalyst was successfully regenerated at the end of the cycle using standard procedures.		
Technical service	Technical support provided throughout operation.	Collaboration to demonstrate improved selectivity via optimisation.	Fortnightly optimization correspondence to tune selectivity performance.

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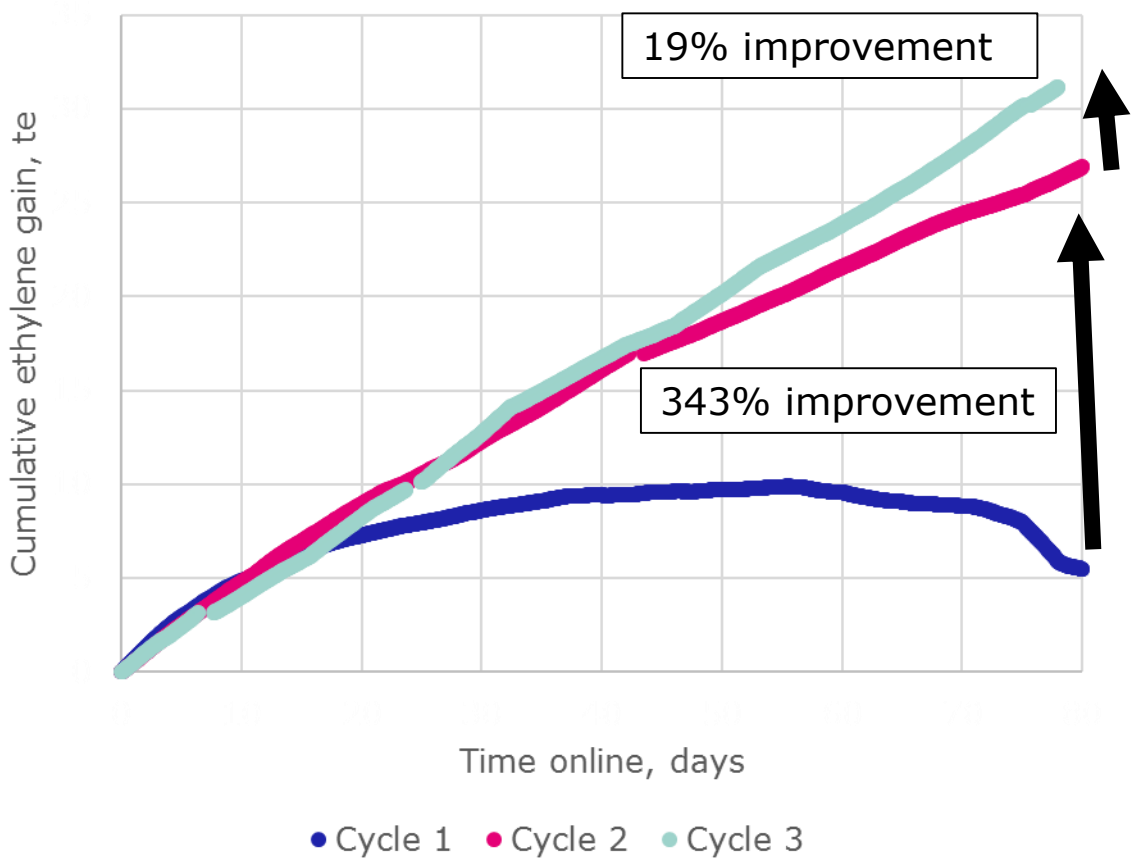
Ethylene gain

PRICAT PD 608/1 plant performance

Ethylene gain



Cycle 3
- Further process optimisation

Cycle 2
- Selective operation targeted

Cycle 1
- Selective operation not targeted

Summary

- **PRICAT PD** 608 series developed from core science and advance screening to deliver a robust formulation
- Catalyst has been demonstrated at a laboratory and industrial scale
- Cycle on cycle improvements in ethylene gain have been realised through close collaboration with the customer by a dedicated technical service team
- Second installation of **PRICAT PD** 608 is due to start-up in 2018
- Dedicated R&D continues to innovate to deliver market driven solutions to meet expectations for the next generation of catalyst
- Find out what Johnson Matthey can do for you

Contact us at chemcat@matthey.com

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