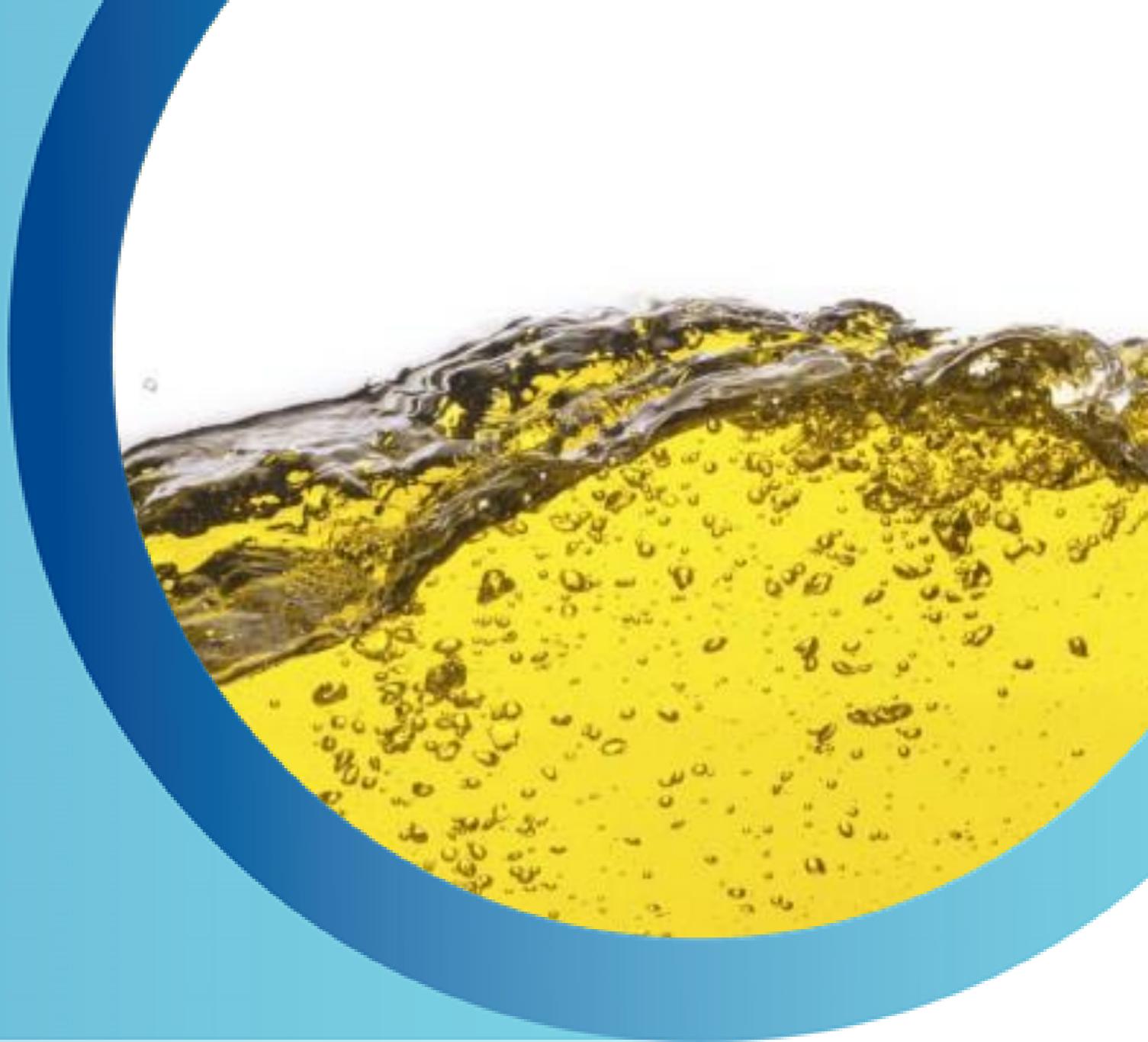


Development of an improved 'Detergent' synthesis process

Andrew Schwarz, Dan Phillips

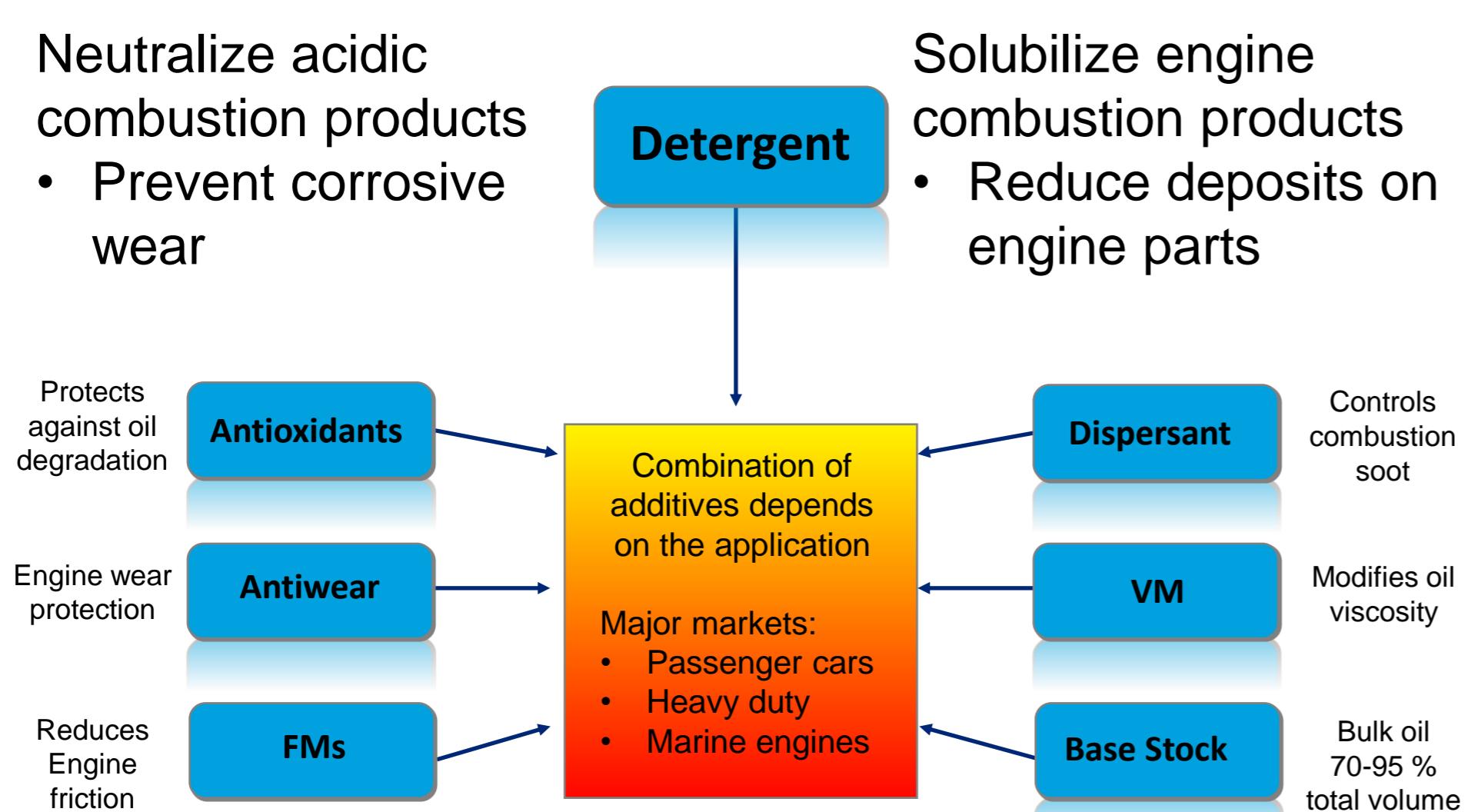
About Us

Infineum is a world leader in the formulation, manufacturing and marketing of petroleum additives for lubricants and fuels



Formulation science

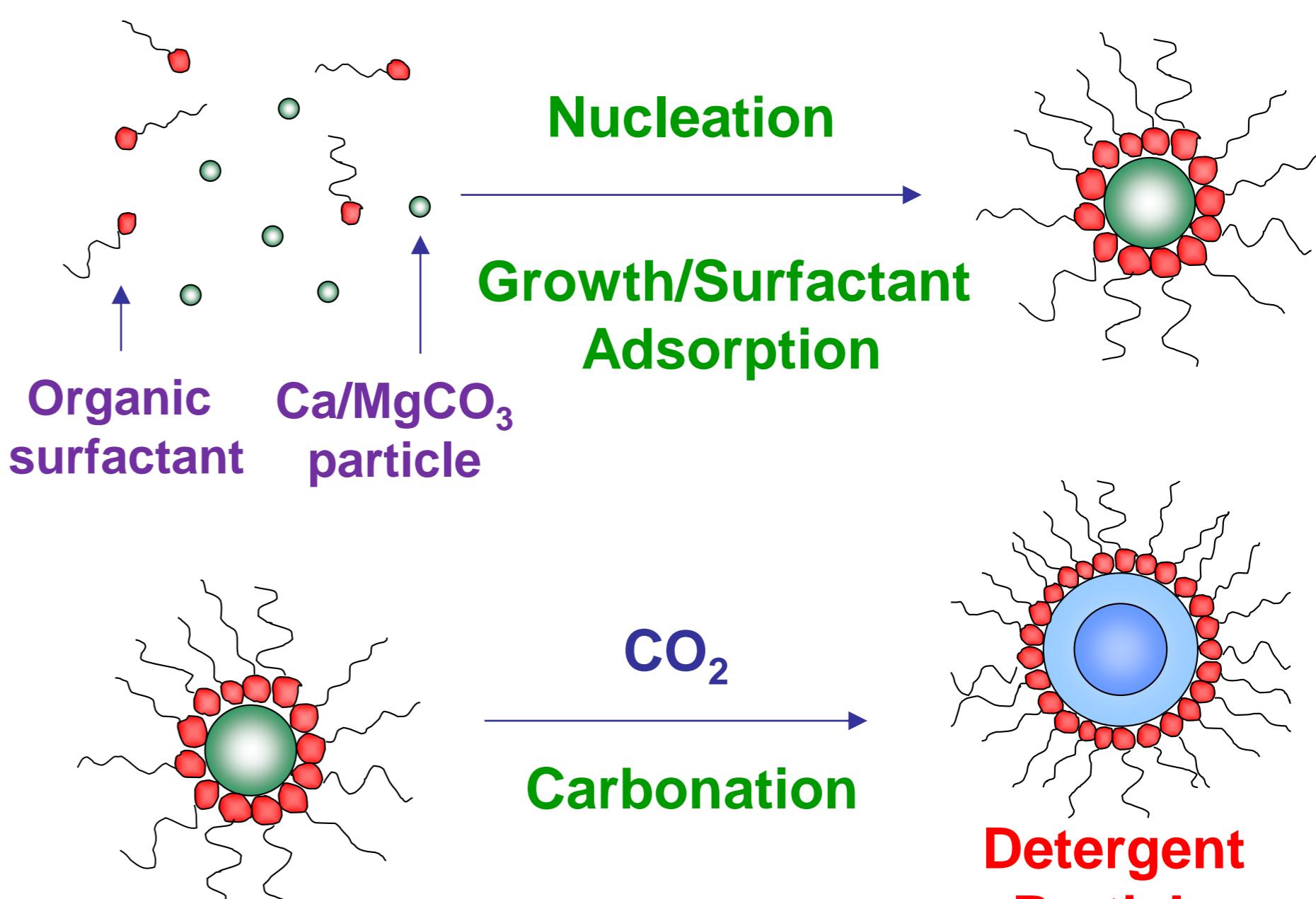
The key is balancing the additives for the application:



Transformation Map (TM)

'Product by process'

- Develop understanding of the underlying chemistry
- Each reaction step understood in more detail through the development of a transformation map



Initial screening analysis (ISA)

Challenge: Improve an existing process to synthesise an improved 'Overbased' detergent product

Overall aim: Develop a plan for next phase of this work

Where we are now and where we want to be

- Buy in from the team/stakeholders
- Neutralise personal agendas



Establish clear goals for the session

- Agree the agenda for the meeting
- Review pre-read and align expectations
- Discuss constraints

Main output: Agree purpose of the session

Chemists lead activity

Process definition diagram (PDD)

What we currently do at our Manufacturing sites

- Challenging our assumptions
- How do the process steps relate back to the underlying chemistry?
- Overcome engineer/chemist differences when different groups run the process

Main output: Develop a template of the things we need to understand to define a new process;
Engineering-led (Manufacturing Technology) activity

Conclusions and lessons learnt

Senior management presence and engagement

- Extra input from wider experience
- Higher level input – e.g. business/supply drivers
- A greater understanding of the work/plan



Drawbacks of the session

- No independent experienced facilitator
 - Impacted tool selection
 - Stakeholder decision external to the team