

## The EPSRC Grand Challenge – A Dial-a-Molecule Overview

**“How can we make any molecule (by an optimum route, in the desired quantity) in days rather than years”**

### Why is the Grand Challenge important to industry?

Meeting the Grand Challenge will impact all chemistry-using industries and foreshorten R&D timelines, decrease development costs, and improve the quality of R&D output from:

- Accessing *any* desired chemical entity, without limitation imposed by ease or viability of the synthesis
- Ensuring implementation of a viable (sustainable, cost-effective) route from the outset
- Delivering accurate prediction of scalability through generation of complete reaction data sets

### What deliverables can you expect to see?

Whilst full realisation of the Grand Challenge is expected to take 20-40 years, the co-ordinated cross-disciplinary approach, Networking and successful partnering will deliver ongoing benefits from inception, including:

- Development of research talent with 21<sup>st</sup> century industry skill sets
- Novel reactions, including previously impossible or impractical transformations, which are fully understood and amenable to industry exploitation
- Comprehensive reaction datasets offering reliable predictions of synthetic outcomes

### Why is participation important to industry scientists?

Through participation you will shape and promote the programmes underpinning the Grand Challenge, and guide research activity in the direction, which is most valuable for you. Participation is your opportunity to interact and partner with the inspiring academics, and colleagues from industry, currently driving the activity, thus building the strong relationships which will identify and solve real problems.

### What has happened so far?

In its first Phase (2011-12) [Dial-a-Molecule](#) has assembled a cross-Industry/Academia Network of 450+ members and 30+ actively involved companies. Through extensive consultation and diverse workshops, the Network has delivered the Grand Challenge Roadmap ([link](#)).

The Roadmap has enabled the Network to identify themed sub-challenges and opportunities, which meet the strategic and tactical direction of the Grand Challenge.

The Roadmap has been used to influence EPSRC funding streams, permitting early research theme identification from e.g. Proof of Concept and mobility grants, and directing research grants.

### **What will happen from now?**

From 2013 Dial-a-Molecule moves to a critical Delivery phase. The Roadmap will be used to shape and promote research projects aligned with the goals of the Grand Challenge. Success will be judged on the outcomes of the research supported, and through the partnerships, collaborations and opportunities, which are generated from an engaged and committed [Dial-a-Molecule](#) Network involving representatives from across industry and academia. To maximise impact, the Network will proactively expand its membership to ensure engagement across the chemistry community.

### **Get involved!**

There is growing excitement and engagement across industry and academia for this cross-disciplinary, co-ordinated approach, using goals designed to solve the chemical synthetic problems faced today, and supporting “Chemistry for Tomorrow’s World”. Don’t miss out!

To ensure your company has a voice in shaping the direction of future science and technology development, please contact the Dial-a-Molecule Network Co-ordinator, Susanne Coles ([L.S.Coles@soton.ac.uk](mailto:L.S.Coles@soton.ac.uk)).