

# Forming and Joining



Forming and joining technologies are facing major challenges through the introduction of new, innovative material and manufacturing concepts with significant reduced body weight.

With increased environmental driving forces new product design solutions based on new materials and manufacturing technologies will emerge.

## Prioritised R&D areas

1. **Minimized and cost effective changeover of today's manufacturing processes in existing workshops for the products of tomorrow**
  - Material flexible production systems
  - Virtual verification and strategies to choose new materials and production concepts
  - Handling & fixturing equipment for new materials
2. **Forming and joining simulations**
  - Simulation of spring-back in forming and die wear
  - Process robustness analysis
  - Joining simulation
  - Sequential simulation of process chains, including final geometry
  - Effective material models for new materials
3. **Forming and shaping technologies for light-weight solutions**
  - Material testing and formability of new and advanced sheet materials
  - Innovative forming technologies
  - High volume manufacturing processes for new automotive materials
4. **New joining technologies for future combinations of materials**
  - Cost efficient and volume flexible processes
  - Adaptive control of joining
  - Optimization of joint configurations
  - Hybrid joining
5. **Flexible and cost-efficient production systems**
  - Including dies, tooling, fixturing, quality control and maintenance

### Cluster members

AB Volvo  
 Volvo Construction Equipment  
 Volvo Cars  
 Scania CV & Scania Ferruform  
 Gestamp Hardtech  
 AP&T  
 Swerea IVF  
 Swerea KIMAB  
 Swerea SICOMP  
 Höskolan Väst  
 KTH

### Contact

*Cluster leader*  
 Erik Tolf, Scania  
[erik.tolf@scania.se](mailto:erik.tolf@scania.se)

*Cluster coordinator*  
 Boel Wadman, Swerea IVF  
[boel.wadman@swerea.se](mailto:boel.wadman@swerea.se)

**Read more, [www.produktionskluster.se](http://www.produktionskluster.se)**



**Meeting place for success**  
**Katrineholm 17–18 May 2017**