



# x-marriage

## Unit assembly - marriage

The "marriage" is the highlight of the production process in which the drive and chassis components (engine, gearbox, axles, exhaust gas system ...) meet the corresponding car body, are fitted and bolted together.

Various concepts, cycle times and degrees of automation can be implemented according to customer requirements.

Our many years of experience, the large number of completed projects and the use of proven standard modules result in reliable processes with high availability for our customers.

### BENEFITS



[Simple technology, high availability](#)

[Reliable processes](#)

[Flexible systems  
\(Mixed operation, type variance, ...\)](#)

[Scalable technology for global use](#)

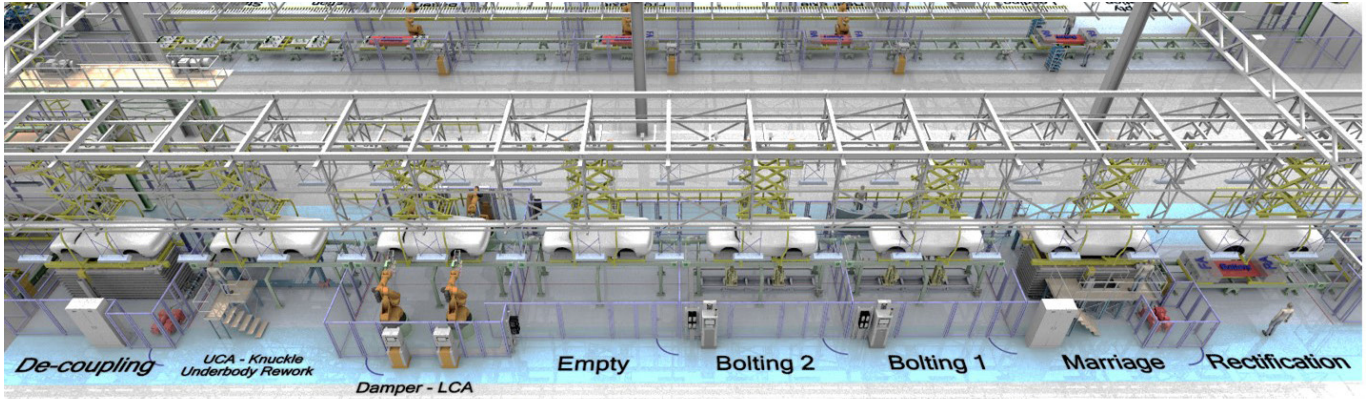
[Economic integration of new types \(short  
model change times, fast ramp-up phases\)](#)

[Customer support in the planning phase](#)

[Shorter project run time and reduced non-  
conformity costs because 3D simulation tools  
can be used](#)

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3D Layout development with Snap Planner

### OUR SERVICES

- **Global presence with local content:**
  - Worldwide handling of projects
- **Simultaneous Engineering:**
  - Developing feasibility studies and conversion concepts with the customer
  - Concept development and 3D layouts with the Dürr software "SnapPlanner"
- **Virtual Engineering/Mixed Reality:**
  - Mechanical and electrical or control engineering inspection of systems
- **Products for the marriage line:**
  - Lifting units: x-levos, x-lift
  - Bolting systems: x-bolt, x-bolt s, x-gun

### BENEFITS FROM OUR PRODUCTS

- Risk minimization
- Proven technology
- Reduced construction effort
- Stable start-up process
- Bolting stations x-bolt, x-bolt s:
  - Modular design: modules are variable and expandable
  - Scalable: various expansion stages can be realized
  - Compact construction method
  - Precise: high repeatability
- Bolting system x-gun:
  - Direct bolting of up to 4 bolts
  - Can be used in x-bolt or robot
  - Simplified pallets/workpiece carriers
  - Simple and fast bolt loading



Bolting station x-bolt with bolting system x-gun

### TASKS



Integrated overall concept creation through cooperation with customer departments (planning, design, maintenance, production)

Fitting of components into the car body

Manual or automatic bolting of the units to the car body

Consideration of peripheral conditions (e.g. conveyor technology, structural tolerances, etc.)

Dokumentation of bolting data

Solutions for vehicle mix operation (e.g. robotics)