

Lower weight, increased strength and reduced cost

– Key benefits for the automotive industry with complete hot forming lines from AP&T

AP&T now provides complete hot forming press lines for part hardening – a key technology for manufacturing of light-weight, ultra high strength automotive components. The production lines are offered within AP&T's "One Responsible Partner" concept- providing a turnkey solution which includes installation, parts and service.

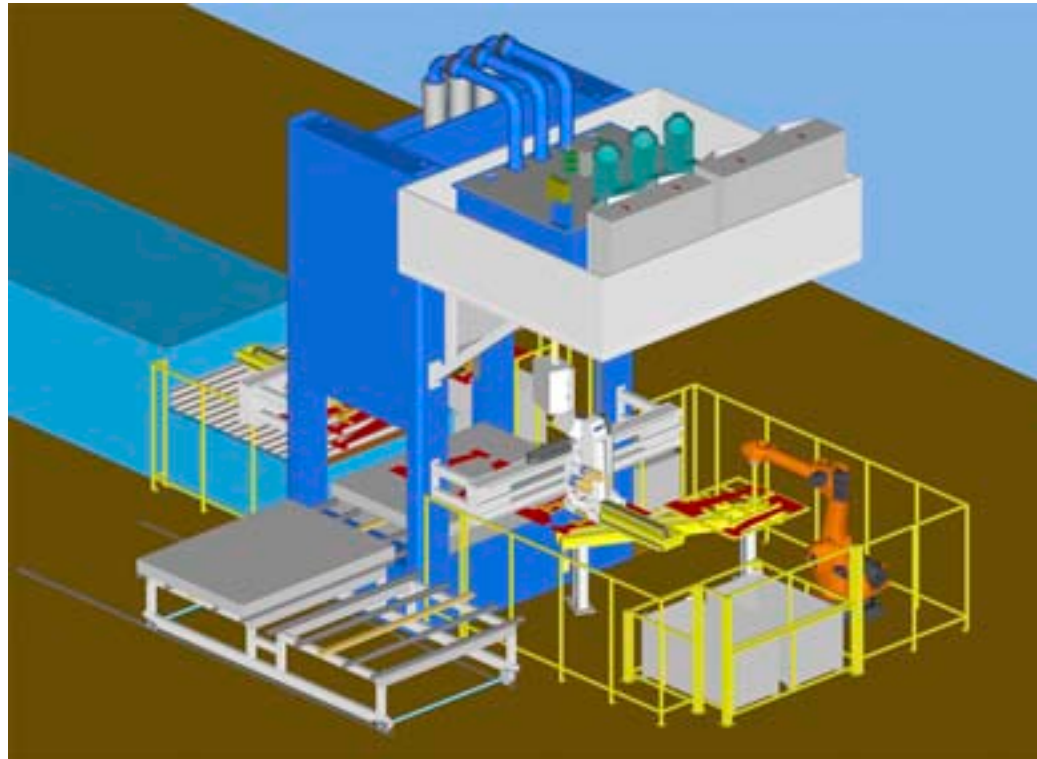
– A strong automotive industry trend is the continued drive towards lower weight and increased crash safety. AP&T's hot forming lines play an important role in helping the manufacturers continue in the right direction, says AP&T sales and marketing director Per Josefsson.

Stronger than aluminum

In a weight to strength ratio, press hardened steel components are superior to aluminum components, making the manufacturing method hot in a double sense. Enabling production of components with three to four times higher strength compared to regular steel, the hot forming technology is ideal for automotive safety parts, where low weight combined with high strength is required.

The entire production chain

The turnkey production solutions AP&T offers are ideal for manufacturers competing on the cost and quality conscious market for automotive safety parts. The solutions from AP&T cover the entire production process including:



Unloading and stacking cell.

- Part simulation
- Tool design and manufacturing
- Material loading
- Heating
- Press loading
- Forming and quenching in die
- Unloading and stacking
- Changeover
- Superior line control system

"One Responsible Partner"

AP&T takes full responsibility for installation,

training, production support and service, allowing the customer to focus on production. This is what AP&T calls "One Responsible Partner".

Crucial production logistics

In safety parts production, exactness, traceability and repeatability are key issues to consider when fulfilling the quality requirements dictated by the customer. This puts the production equipment to the test. In the hot forming process, where blanks are heated to 900°C then formed and cooled in a hydraulic press, the requirements are pushed to the extreme.

- The production logistics in hot forming are crucial. The blanks need to be at the right temperature when pressed, so fast and precise press loading is important not only for production efficiency, but foremost for product quality, says Per Josefsson.

Fast loading, minimal cooling

This is where AP&T's feeders and grippers excel. The blanks are loaded into the press in 1.5 - 2 seconds which results in minimal cooling before forming. AP&T's presses for hot forming use advanced cylinders and high speed accumulators to achieve fast closing speed - up to 700 mm/sec - and fast forming. This further minimizes

the time from the heating of blanks to completed press cycle.

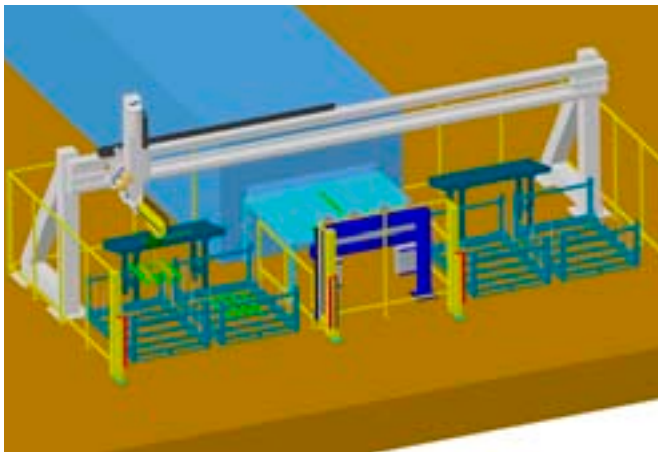
Improved line control

The "One Responsible Partner" concept also means that the entire metal forming process is integrated into one single operational platform. The manufacturing process can thereby be controlled and monitored by one line control system. This improved line control provides a complete view of the entire line and every process.

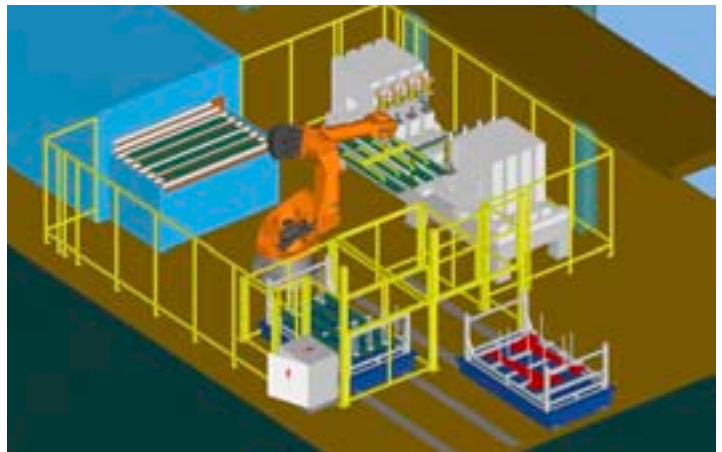
Several major producers of hot-formed components use AP&T's production solutions.



Bumper, B-pillar, Tunnel.



Loading cell.



Loading cell.