CREATE COMPETITIVE ADVANTAGE

BY AUTOMATED TRAILER AND CONTAINER LOADING
The first ACTIW automated warehouse (AS/RS) was installed in the mid 80’s. Over the next decade a further 25 major warehouse systems were supplied around the globe. However in many instances it became obvious that even if the production and storage operations were fully automated, many of the advantages gained were then lost due to the traditional manual operations employed in the dispatch area. We studied the offering and found that all existing loading solutions in the market were based on a modified cargo space and had demanding application requirements resulting in increased investment and restricted trailer fleet availability.

Due to these limitations we decided to develop a loading solution for regular unmodified containers, trucks and trailers that was completely independent of load space. The first ACTIW LoadPlate was delivered in 2001. Today over one hundred ACTIW loading units are in use in different industries around the world with over one million loading cycles completed.

With the loading technology fully proven with LoadPlate we then developed a fully automated, ‘forklift free’ pallet loading solution able to take output direct from production or from automated storage systems and load automatically into unmodified, regular trucks, trailers and shipping containers.

The first fully automated ACTIW LoadMatic units for loading pallets from production were delivered in 2012.

ARE YOU READY TO CREATE COMPETITIVE EDGE IN YOUR LOADING OPERATIONS?

ACTIW LOADPLATES AND LOADMATICS HAVE LOADED MORE THAN A MILLION LOADS AND MILLIONS OF PALLETS. IT IS A PROVEN SYSTEM WORKING AROUND THE WORLD AROUND THE CLOCK.
2.8% TOTAL SAVINGS IN COST OF PRODUCTS SOLD CAN BE REACHED BY AUTOMATED LOADING. A LOT OF POTENTIAL FOR INVESTMENT.

<table>
<thead>
<tr>
<th>LOADING COST</th>
<th>TRANSPORTATION COST</th>
</tr>
</thead>
<tbody>
<tr>
<td>Conventional loading</td>
<td>-75%</td>
</tr>
<tr>
<td>Automated loading</td>
<td></td>
</tr>
<tr>
<td>Conventional loading</td>
<td>-15%</td>
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<tr>
<td>Automated loading</td>
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2%–8% TOTAL SAVINGS IN COST OF PRODUCTS SOLD*

Even if industry accepts that automated loading can create remarkable savings (Actiw LoadMatic White Paper 2014*) it is hard to raise the priority for the investment. The challenge is that in many cases we start to automate a process that has been designed for forklift operations. All the changes necessary to adapt the existing environment double the investment compared to a green field environment.

Automated loading creates attractive ROI figures when all the operations have been designed for full automation. Lower capex will then shorten the payback time. Optimum environment for loading automation is direct integration with production or if not possible, with automated warehouse. According to our studies ROI is shorter for an automated storage with a loading solution than an automated storage with manual loading.

Above are just some of the typical comments faced when discussing automated loading operations. The biggest challenges may be the new concept of which the industries and their key players are not aware and therefore they cannot be convinced of its functionality. Pioneer spirit will be needed before a breakthrough in automated loading will happen.

// There is no commercial solution for automated pallet loading
// I find it hard to believe before I see it done with our products and trailers.
// Reduced truck turnaround time doesn’t give any savings.

*Download White Paper, watch video and learn more: www.actiw.com/solutions/actiw-loadmatic

UNFAMILIARITY OF THE VARIOUS AUTOMATED LOADING SOLUTIONS FOR UNITIZED LOADS SLOWS DOWN DEVELOPMENT OF LOADING
In general, loading automation is gaining benefits both in capital and operational expenditures. In capex expenses automation will generate savings by lower investment in facilities, with less loading docks, but investment in equipment is slightly higher than in forklifts.

Real benefits will be created in operations. Operational benefits come from labor, dock time, energy, maintenance, product damages and safety. Of course they vary a lot depending on the industry and its operations but these features are present in one way or another.

Below are examples from the petrochemical and consumer goods industries which clarify the benefits available by automated loading operations.

**CASE FMCG**

This is a comparison of loading by FLTs vs. LoadMatic, 100 pallets per hour. Pallets are fed from an automated storage to a dispatching area and back loaded into trailers in 3 shifts in 24/7 environment.

Total operational savings in a year are around 600 000 euros. The result is based on savings in labor, docking time, machinery, product damages, health and safety and energy costs. Return on investment is around 2 years.

**CASE PETROCHEMICAL**

This is a comparison between FLT and LoadMatic loading. 60 pallets/hour are loaded into DC containers in an 24/7 operation. Pallet infeed directly from a palletizer. In this case the annual savings are around 500 000 euros and return on investment is about 1,5 years.
**CONCEPT**

ACTIW OY is a turnkey integrator. The blue boxes above represent Actiw’s scope.

### INBOUND
- PRODUCTION
- AUTOMATED WAREHOUSE
- SEQUENCER
- PALLET STAGING / FLT

### LOADFORMING AND DEPALLETIZING
- CONVEYORS
- ROBOT
- INVERTER
- PUSHER

### AUTOMATIC LOADING
- PALLET STAGING / FLT
- PALLETS
- BAGS (PLASTIC, PAPER)
- CRATES (PLASTIC, METAL)
- BALES (RUBBER, FIBER)
- SLIPSHEETS
- ANY UNITS

### OUTBOUND
- DC CONTAINERS
- CURTAIN TRAILERS HARDBOX TRAILERS FLATBEDS
- TRUCKS (PUNJAB) VARIOUS LENGTH/WIDTH
- DIFFERENT HEIGHT
- ANY UNITS
TECHNOLOGY

**THE LOADMATIC** is an automated loading equipment with a roller bed onto which pallets are rolled straight from a packaging line. When a full container or truck load is ready, the LoadMatic simply transfers the pallets into the container or a trailer in one push. No alterations to the load space or substructures beneath the goods are required. The LoadMatic is seamlessly integrated to production lines or an automated warehouse and it is the most efficient solution for automated loading of palletized and palletless goods on the market.

The LoadMatic operation consists of three steps:

Loadforming – the equipment arranges incoming pallets typically one row at a time. After this, the pallets are gently pushed onto the roller bed which is covered by rollers. Depalletizing is done at this phase if required.

Alignment – LoadMatic stands on legs. Both ends are automatically adjustable, enabling automatic and accurate alignment with the loading space.

Loading – the roller bed with pallets/units is pushed into a container or trailer. The stopper gate is lowered to keep the pallets inside while the roller bed is pulled out. The loading process is complete and the doors can be closed.
ACTIW products are unique and based on the company's own technology. Actiw turnkey solutions consist of automated warehouse, sequencing and loading deliveries.

If you are interested in creating a competitive edge for your intralogistics operations please contact us at www.actiw.com.

A value analysis will be needed for final decision making. We have the tools but you are the best experts of your operations. We’ll be happy to make a concept proposal together with you.

Actiw will demonstrate your ideal solution in your company environment with the latest animation simulation techniques.
Actiw Oy is a Finland based manufacturer and turnkey integrator, specialized in intelligent and sustainable automated warehouse and loading solutions. Actiw has a solid track record with dozens of successful installations and pleased clients; Actiw’s automated material handling projects have been executed since the mid-1980’s. The company has invested strongly in developing their own, unique automated storing, sequencing and loading systems for the international market. For more information, please visit: www.actiw.com