CASE STUDY

SYNERGIZED WAY OF WORKING FOR WASTE TO ENERGY PLANTS RESULTS IN 10% MORE HOTT AND 3,5% REDUCED DOWNTIME

The Dutch market leader of waste to energy production has a network of processing plants in the Netherlands. Those waste to energy facilities combust waste to produce energy in the form of heat and steam which, next to wind energy, has been one of the largest sources of energy in the country for years. MaxGrip was asked to apply the Asset Improvement Program including an assessment of the two biggest waste to energy sites as well as implement and deploy the recommendations for the required improvements.

CHALLENGE: SYNERGIZE AND REDUCE COST

The waste to energy expert recognized the potential to improve efficiency and reduce downtime. The ambition was to significantly reduce the maintenance cost to processed waste ratio. One key factor for success for the company was to synergize the cooperation between departments within the two plants as well as the collaboration between the two sites. The company selected MaxGrip for our combination of strategy and hands-on deployment approach, offered in our well-known Asset Improvement Program. We first assess the situation at site level and then offer recommendations and a tailor-made improvement roadmap per site. The next step is to deploy the recommended improvements in close cooperation with the two sites.

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APPROACH:
ASSESS AND DEPLOY

Stage 1: Asset Improvement Mapping

MaxGrip started with an assessment at the two waste to energy locations. The first step of our program, the Asset Improvement Mapping, is based on fourteen asset management competencies which fall in three categories: asset reliability, management and maintenance execution. The assessment includes a comprehensive historical data and information analysis and 25 stakeholder interviews per site. Next to site-specific recommendations, MaxGrip also provided collective improvement opportunities for the two sites. This was done to enhance the synergy between the sites. These were the most important shared improvement recommendations:

1. **Standardize the work order preparation process**
2. **Expand the planning horizon**
3. **Review and improve periodical Preventive Maintenance plans**
4. **Improve quality and quantity of corrective work orders**
5. **Improve prioritization of work orders based on to-set criteria**
6. **Improve the kitting and staging process**
7. **Improve maintenance & reliability engineering**

The recommendations were plotted on an improvement roadmap and discussed with the management teams of both sites.

Stage 2: Asset Improvement Deployment

While most of the recommendations were centered around maintenance work preparation and processes, in agreement with the plant managers we opted for a broader approach in which the processes, people, assets, systems and tools from start to finish were included in the deployment. This will ensure lasting improvements in results.

Doing the right things

With the maintenance teams of both plants we focused on improving their risk based maintenance. This included:

- Workshops together with the teams to map critical installations that are not allowed to fail;
- Assessing the quality and quantity of existing maintenance plans together with the maintenance engineers;
- Creating standard maintenance plans for fifty object types, working closely with maintenance engineers of both sites;
- Rolling out the standard maintenance plans for critical assets for each object type;
- Collaborating across sites by having regular meetings together with both engineering teams and by sharing best practices;
- Training and coaching maintenance engineers so as for them to finetune the maintenance plans and to build out the plans to other object types.

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Doing all things right

In parallel to doing the right things we also included improvements regarding processes and people: work processes, behavior, way of working and roles and responsibilities. The main improvement focused on setting up a uniform way of working. This involved recreating the maintenance execution workflow from start to finish including specifying roles and responsibilities, clear gate keeping agreements and the team meeting and consultation structure. The new workflow was set up in close collaboration with the maintenance managers.

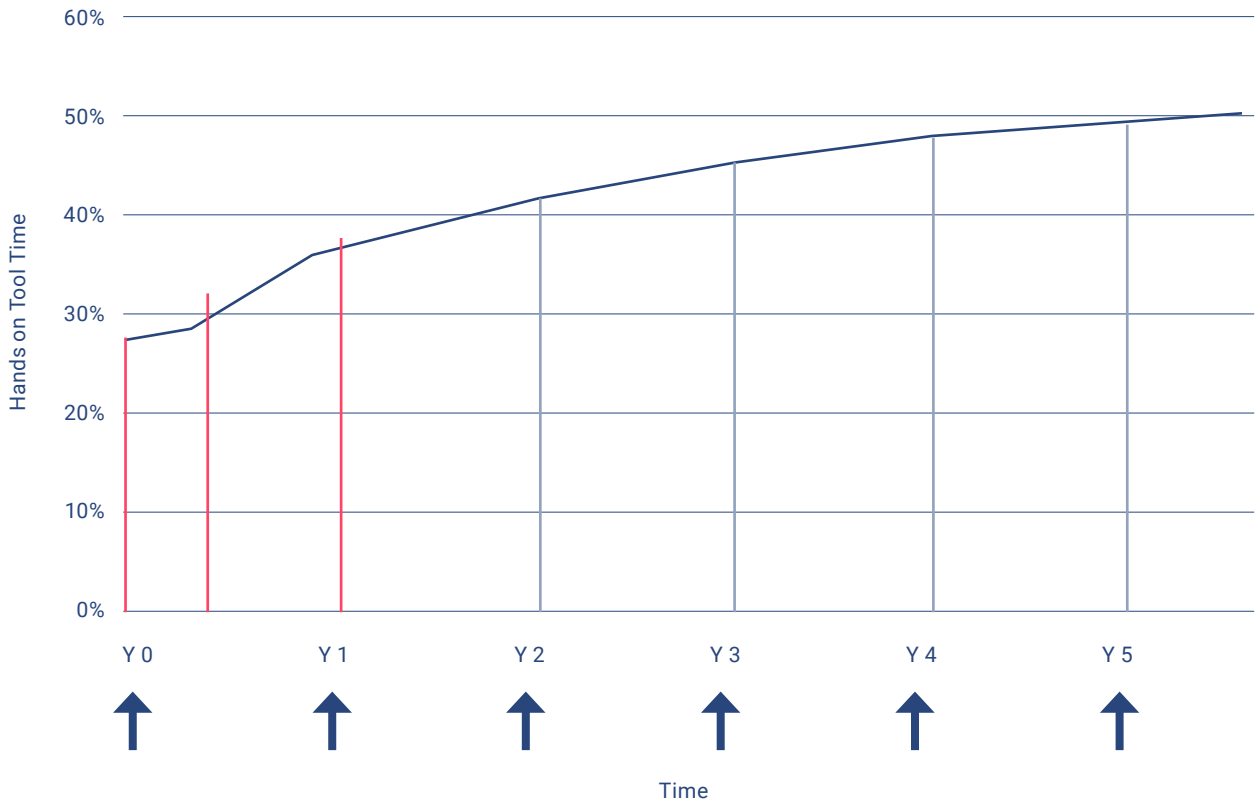
An important factor for success was the inclusion of the Operations team in the workflow process and as a member of the progress meetings. This was a major change as Operations and Maintenance had worked in siloes while they now started working together in a regular and structured fashion. To close the loop of key stakeholders, the plant manager was also regularly updated and involved to get their buy-in, encouragement and support.

While MaxGrip was in the lead at the start of the process improvements, the lead was transferred to the maintenance managers and their teams along the way. MaxGrip consultants coached the teams and acted as a sound board.

Tracking progress

With all of the improvements being deployed, it is important to measure the progress and success. Therefore, MaxGrip together with the site management teams determined fifteen KPIs. One of those KPIs was Hands on Tool Time (HoTT) with a set target of 50% in five years. HoTT serves as a KPI to measure efficiency of the work floor personell. Due to all of the deployed improvements, the company was able to report good progress for Hands on Tool Time with a slightly above-targeted result after just one year.

HoTT progression chart



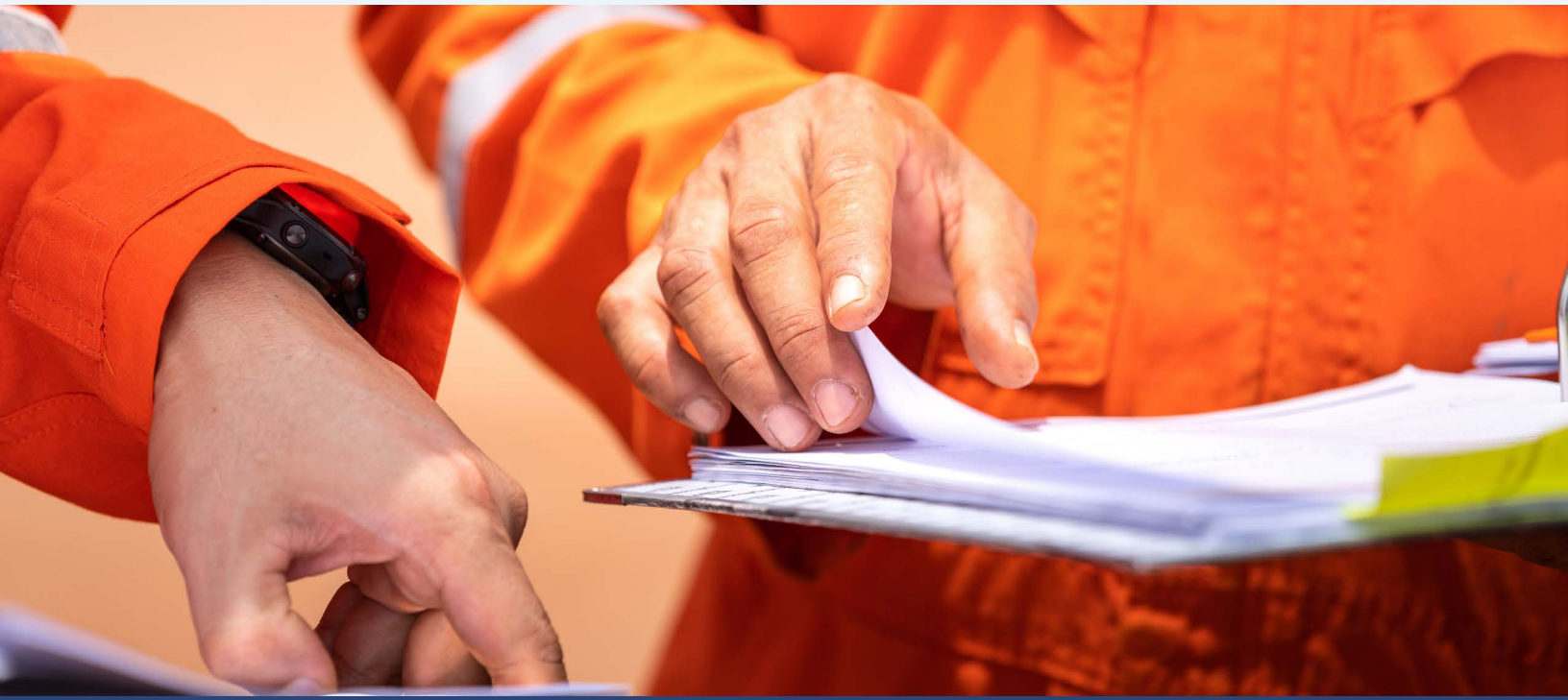
Another way in which we tracked progress for all improvements was the System Implementation Tracker. This comprehensive dashboard reported on weekly progress, scoring was done by all of the involved key stakeholders. All deployment activities were scored regularly on a scale of one (start) to five (best). This included several key meetings, KPI deployments, use of improved planning, gate keeping, implementation of finetuned roles and responsibilities. MaxGrip set targets for each activity as not all were expected to realistically grow to a five. The expected baseline for the different ranking levels were also predefined. For meetings, for example, the mood or atmosphere was ranked as well as behavior, collaborative effort and activity. This provides insights into the sustainability of all implemented improvements.

The System Implementation Tracker ensured that all stakeholders regularly evaluated progress together as scores were also shared and discussed in weekly check-in meetings. Moreover, the scores were shared with management including recommendations for improvement. The Tracker was an essential tool for change management and measuring and realizing improvements at the sites.

THE RESULTS

As changes of this magnitude take time to be fully embedded and to show results, the project is still ongoing. Some first results can already be reported:

- Hands on Tool Time has already improved with 10% in one year, this is above the set target;
- The workforce is competent and committed; they are happy with the offered structure and clear expectations. This is translated into
  a low staff turn over;
- The workforce is already more efficient and downtime is reducing. If the project stays on track, it will culminate in a reduction of 3,5 % unplanned downtime, resulting in a significant improvement of the maintenance cost to processed waste ratio;
- Highly improved internal collaboration between departments of the waste to energy plant as well as between the work floor staff and the management team.



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Learn more about our solutions and clients at maxgrip.com. Or contact us via info@maxgrip.com.