An important aspect of service life optimisation is also to select the right materials and products from the start. CTS is able to give impartial and sound advice on requirements for optimal service life. Taking this in consideration service life optimisation even becomes more efficient.
A significant part of the assets in tank storage facilities are currently near the limits of the intended service life. The most efficient way to deal with this circumstance is to implement service life optimisation. This involves “continued use of a product and/or service close to its original design life”. It is centred around inspection and assessment of risks and total life cycle cost (LCC) of continuing the use of the product or service versus the cost of replacement.

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Drone inspections

Inspections with unmanned aerial vehicles also known as drones represent the next step in tank inspections. Currently drones are capable of collecting data on geometry, visuals and emission. It is a matter of time before the capabilities will be supplemented with actual quantification of data. Together with our partner CTS can perform inspections with our safe platform without restrictions. The licensed pilots and good links with aviation authorities put us in a perfect position to overcome any obstacles. Our state of the art software system enables efficient processing of gathered data to reach a truly efficient determination of the actual state of the asset.

3D laser scanning

Tank inspection and still important causes of structural tank failure. With our laser scanning technology we can scan a tank in service and determine the actual state of the tank. Nowadays it is already possible to inspect any tank in service. This inspection will provide qualitative data. We will make sure the maximum service life is reached against minimal risk. Our experienced engineers will determine the degradation limits of the asset based on the relevant codes such as API 653 and EEMUA 159. This will be the basis for further assessment.

Evaluation of previous inspections

When looking in detail at previous inspections it is possible to get a detailed indication of the degradation of tanks and another asset. These inspections on aging assets are a very good source of information to determine areas of interest and degradation rates to predict the current conditions of the tank. Our experience with tank inspection and maintenance within reputable end users gives us the possibility to make optimal use of this important additional source of information.

In service inspections with robots

Assessment of the tank floor status is one of the main reasons for taking a tank out of service. Many aspects that contribute to the failure of tank inspection can be done in service, but for tank floor scanning a tank needed to be emptied and cleaned. With our state of the art tank inspection robot in combination with our asset integrity specialists we are able to assess the tank floor status in service. This inspection will provide qualitative as well as quantitative data on the tank floor. It is already available for many light products and ongoing developments make it possible to inspect any tank with any stored product in the near future.

Corrosion inhibition

Quite often integrity and degradation assessments reveal unexpected results. Very high degradation speeds can threat the operability and adversely affect safety. Especially in the field of corrosion inhibition CTS has interesting solutions to reduce the soil side corrosion without removing the tank from service.

Our engineers adopt a pro-active predictive approach. This starts with a thorough investigation of the current state of the asset. The aim is to inspect with as little intrusion as possible. This includes the use of drones and inspection robots. After inspection a risk based assessment is carried out, using the best available tools in the market. The final scope of the process are in service mitigation when possible and planning an optimal maintenance scope when all in service options are exhausted.

When the mitigating actions are no longer possible the tank needs to be taken out of service. This is usually a costly operation. With the data gathered in the previous steps the optimal scope can be determined which will make sure that the tank can be taken back in service for an optimal in service period.

The experienced engineers in our asset management department as well as the partners in our extensive networks are capable to implement these systems in your organisation. The focus of this implementation will be to create an asset management plan based on risk and relability with an optimal balance between risk, relability and economic considerations.

SLE is regarded as an environmentally friendly way to relieve the pressure of waste by prolonging the useful life of aging assets and preventing them from being discarded too early. The only way to assure the relief the pressure of waste by prolonging the useful life of aging assets is to create an asset management plan based on risk and relability with an optimal balance between risk, relability and economic considerations.

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1. Determine state of the asset
2. Assess the state of the asset and the remaining service life
3. Define in service mitigating possibilities
4. Determine out of service maintenance and assessment of service scope

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