IHC Parts & Services manufactures complete onboard pipelines to feed and discharge the mixture into and out of the dredger. As key component in the transport process and thus dredge cycle they are exposed to varied but often high levels of wear.

System approach
The design objectives lie in ensuring that a whole system operates at minimal flow resistance and downtime, and wears evenly. For optimum performance they are precisely constructed of the ideal material in terms of cost/wear ratios and effective lifetime. This means that eventual replacement is both delayed as long as is feasible and can be undertaken simply by having the whole pipeline assembly arrive at the point of replacement at the same time.

The IHC Parts & Services portfolio covers a wide range of pipe patterns and structures, varying from simple straight pieces to complex three- and four-branched pipes. A complete pipeline assembly can contain:
- straight pipes
- bend pipes
- branch pipes
- and suction mouths.

Benefits
- Even wear of the whole pipeline system
- Predictable replacement time
- Modernisation with wear resistance:
  - longer lifetime
  - less maintenance
  - reduced downtime.
- High-quality wear-resistant materials.
Onboard pipelines - Wear-resistant materials

<table>
<thead>
<tr>
<th>Product packages</th>
<th>Silt</th>
<th>Clay</th>
<th>Sand</th>
<th>Gravel</th>
<th>Rock</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hoppers</td>
<td>Cutters</td>
<td>Hoppers</td>
<td>Cutters</td>
<td>Hoppers</td>
</tr>
<tr>
<td>Wearmet®</td>
<td>Low wear</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>MaxFedur</td>
<td>Medium wear</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>MaxTop®</td>
<td>High wear, low weight</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
<tr>
<td>Maxidur® 5</td>
<td>Extreme wear, high lifetime</td>
<td>•</td>
<td>•</td>
<td>•</td>
<td>•</td>
</tr>
</tbody>
</table>

Wear-resistant materials for onboard pipelines
IHC Parts & Services provides a range of wear resistant materials to deal with all kinds of wear. Casting materials vary from high tensile cast steel Wearmet® S2, to high chromium white cast iron like Maxidur® 5. IHC Parts & Services also uses specially designed wear resistant sheet metals, like MaxTop® and MaxFedur.

Wearmet® – cast steel
- low to average wear environment
- bends, branches and suction mouths
- cast in complex shapes and thicknesses
- normal and high-tensile steel
- wear-resistance factor of 1.5-2.

MaxFedur – sheet metal with hardened carbon steel layer
- medium wear environment
- good impact wear resistance
- all products available
- pressed smooth bends and branches
- wear-resistance factor of 5.

MaxTop® – sheet metal with high chromium weld layer
- medium to high wear environment
- low weight to lifetime ratio
- weldable outer layer
- repair wear with hardfacing
- wear-resistance factor of 20.

Maxidur® 5 – high chromium white cast iron
- high to extreme wear environment
- all products double walled with liner
- high lifetime from thickness
- replacement of wear liners
- wear-resistance factor of 16.

Wear-resistance factor
The wear resistance factor is an indication of the wear resistance of a material compared to steel C22. The values are determined in a standard TNO slurry erosion test (test developed by National Organisation for Applied Scientific Research TNO), involving six hour exposure of a standard test piece in a sand water mix tumbler together with the test material.