

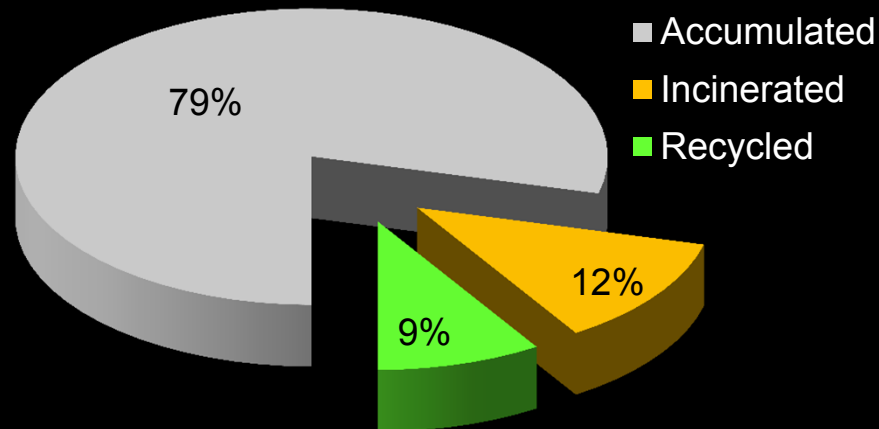


Remanufacturing of office printing equipment helps the Circular Economy

We can do our part to help solve the plastic waste issue

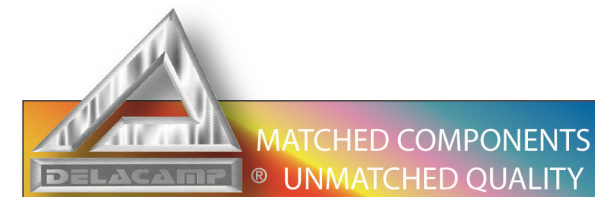
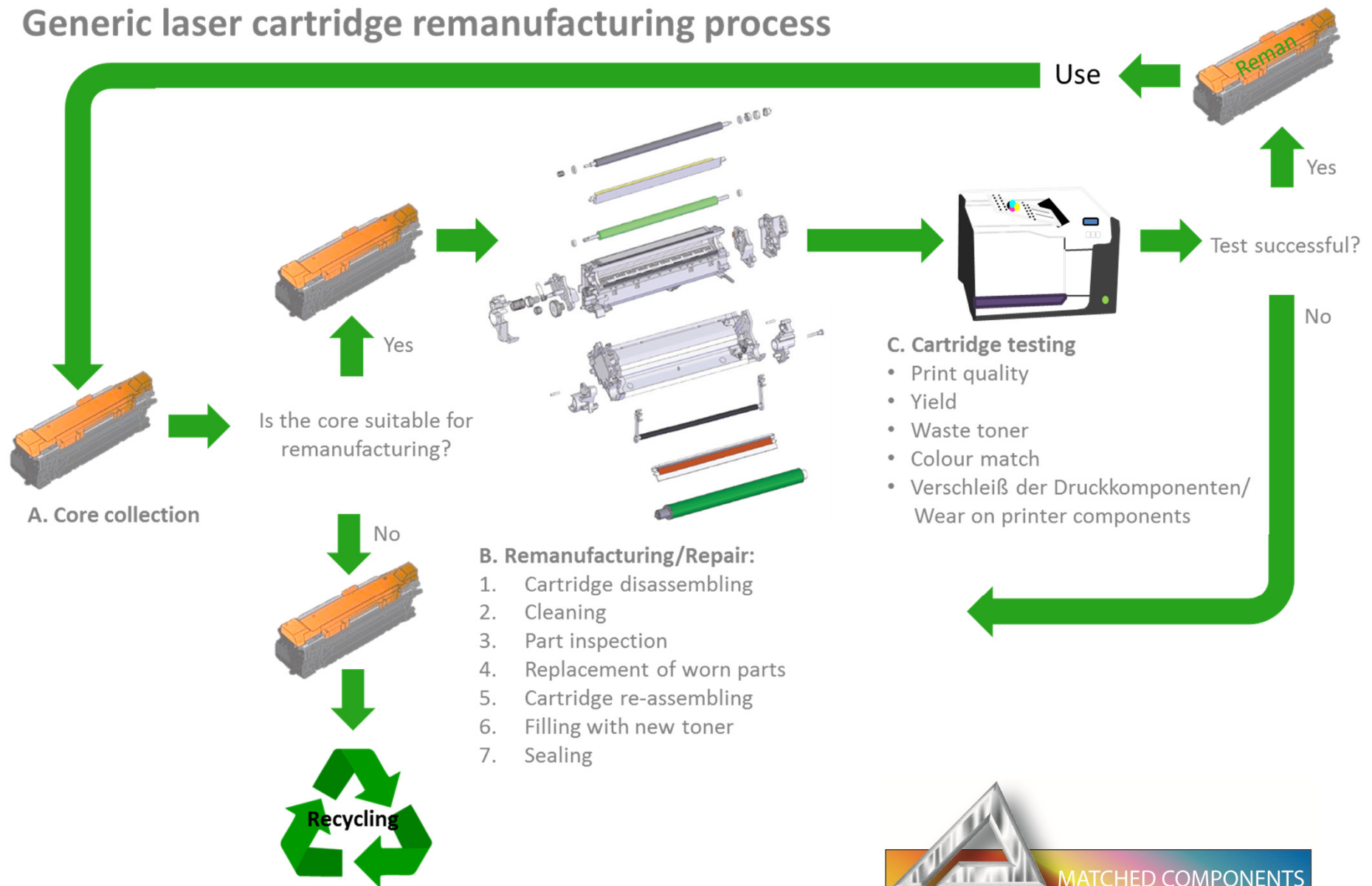


- An estimated total of 8.3 billion tonnes of virgin plastic has been produced as of December 2017.
- As of 2015 6.3 billion tonnes of plastic has been generated.



- If current production and waste management trends continue, roughly 12 billion tonnes of plastic waste will be in landfills or the natural environment by 2050.
- An estimated 10 million tonnes of plastic currently ends up in the oceans each year..

Generic laser cartridge remanufacturing process



Sustainability and the concept of the circular economy are the pillars of the repair/remanufacturing industry



Considering the use of materials remanufacturing is one of the most preferable alternatives because the geometrical form of the product is retained and its associated economic value is preserved.

The environmental impact can be reduced up to 61% if a cartridge is remanufactured at least twice, rather than newly manufactured, because of the material recirculation¹.

A recent study that was conducted on behalf of the DG Environment from the EU Commission revealed that 75-80% of all printer cartridges could be re-used.

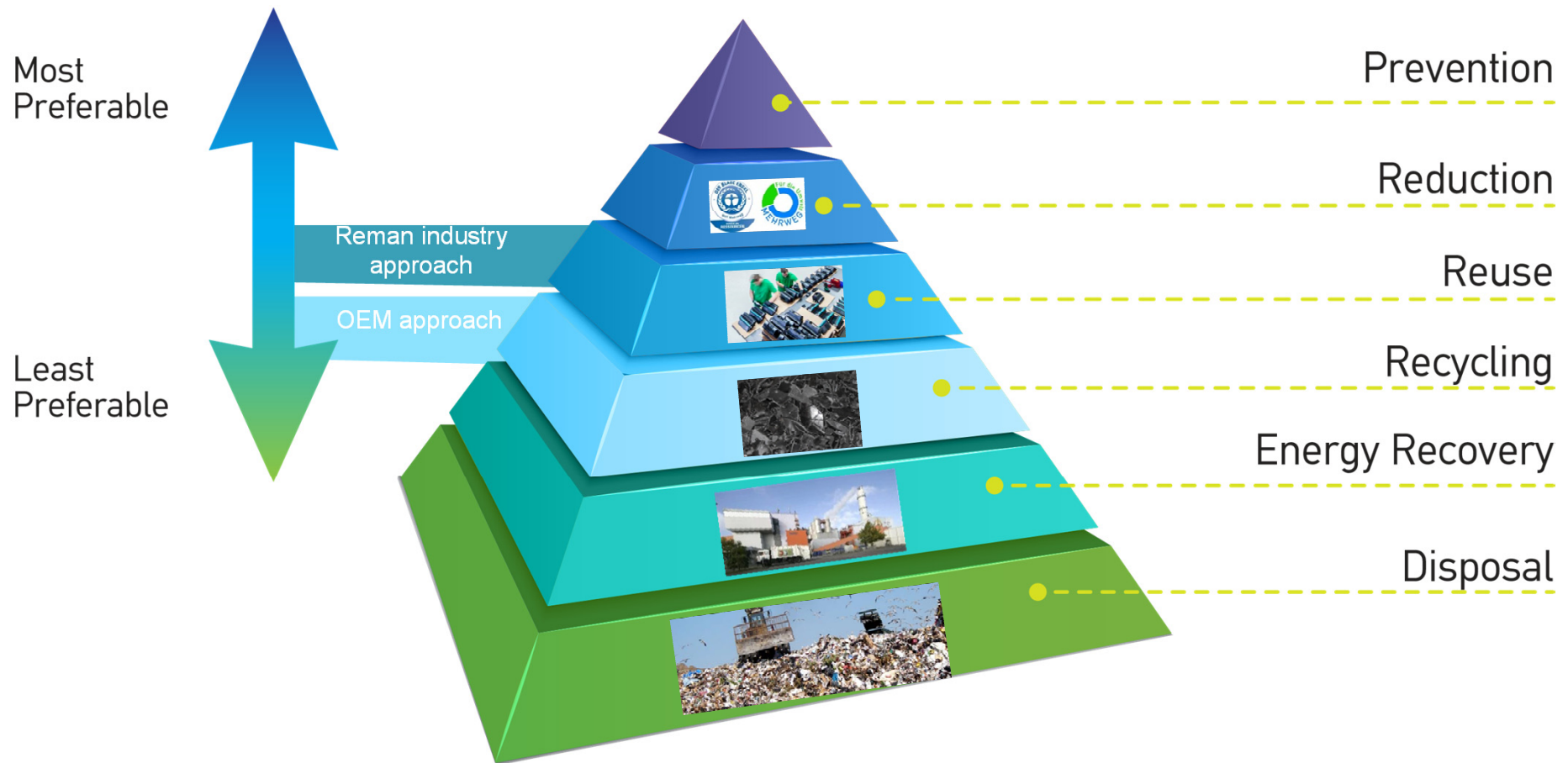
→ But in fact less than 20% are actually being re-used.

The rest ends up in landfill, energy recovery (incineration) and raw material recycling.

¹ Mattias Lindahl, Erik Sundin and Johan Östlin: "Environmental Issues within the Remanufacturing Industry" in PROCEEDINGS OF LCE2006 from the 13th CIRP INTERNATIONAL CONFERENCE ON LIFE CYCLE ENGINEERING, pages 447-452, Belgium, 2006.

The hierarchy of trash/waste supports the repair/remanufacturing industry

THE WASTE HIERARCHY



The 3 R's in Laser Imaging

Reduce

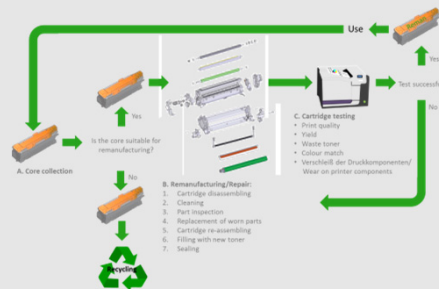
DMS and MPS



Source: <http://www.naesys.com/document-management-system.html>

Re-use

Remanufacturing



Recycle

EOL



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Single-use only or refuel and repair?



What is inside a laser cartridge:

- Plastics (e.g. PS, PS-FR, ABS, POM, PET-BO)
- Metals (e.g. Steel, Aluminium, Copper)
- Elastomers (e.g. PU, Rubber)
- Other materials (PCB board (chip), grease, glue, etc.)

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