

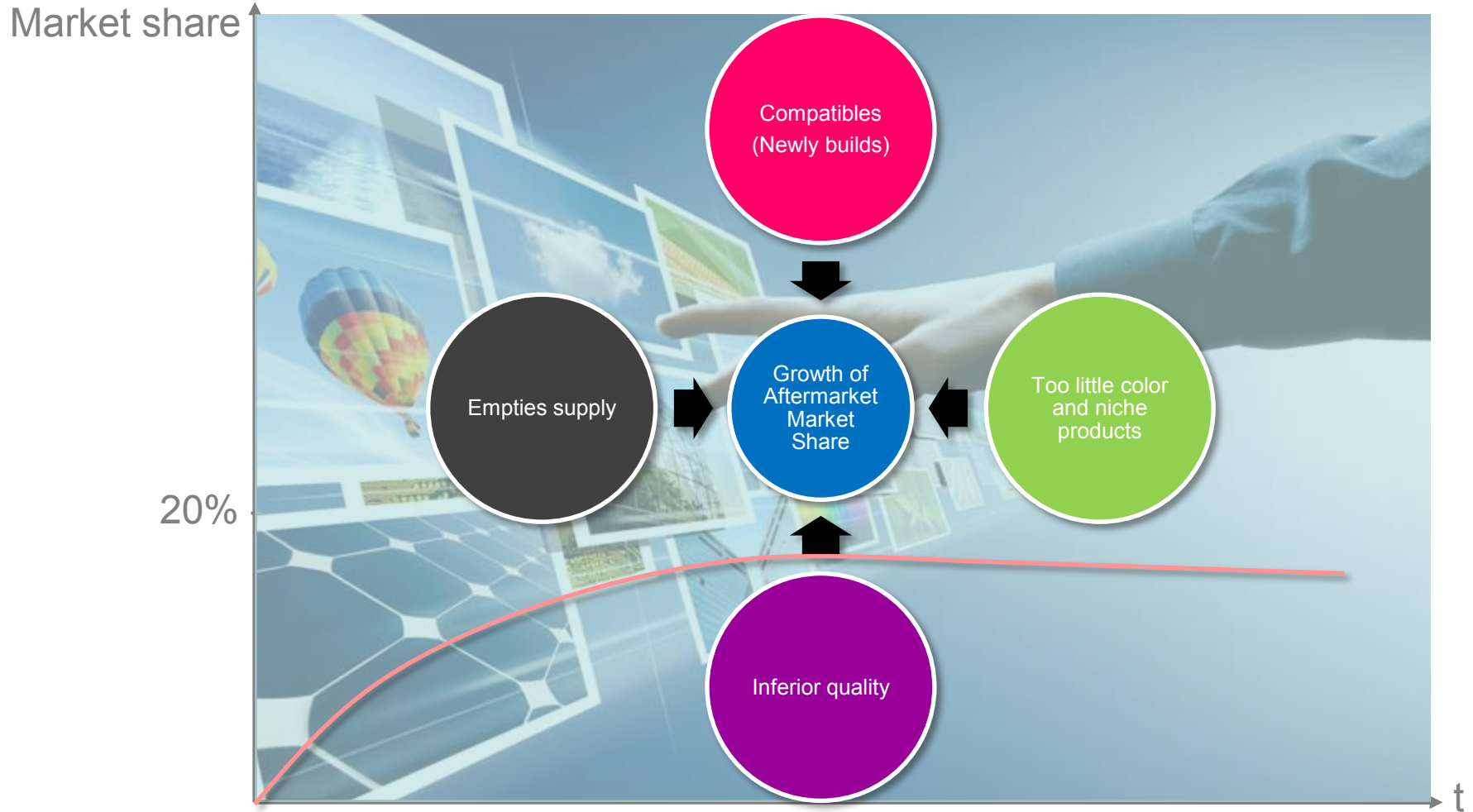


How to survive and gain market share in today's aftermarket environment



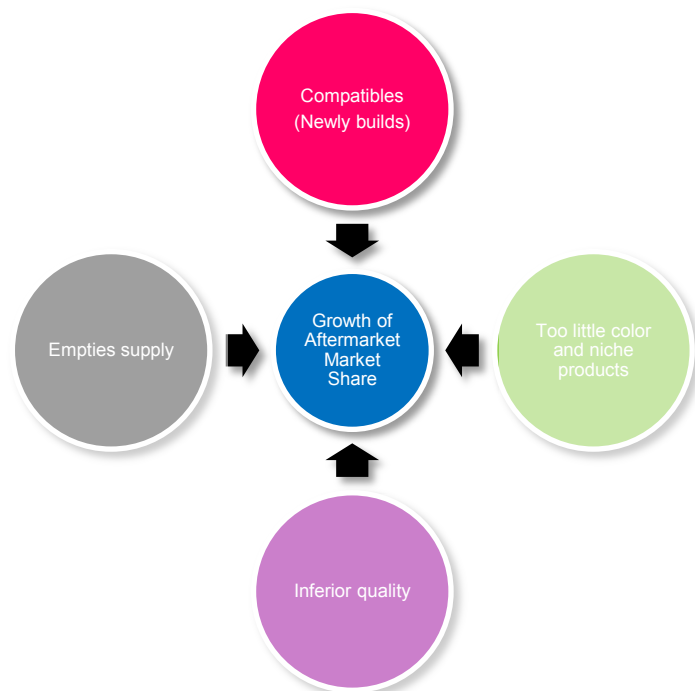
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The biggest handicap for growth is the aftermarket itself



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Compatibles are the route to failure

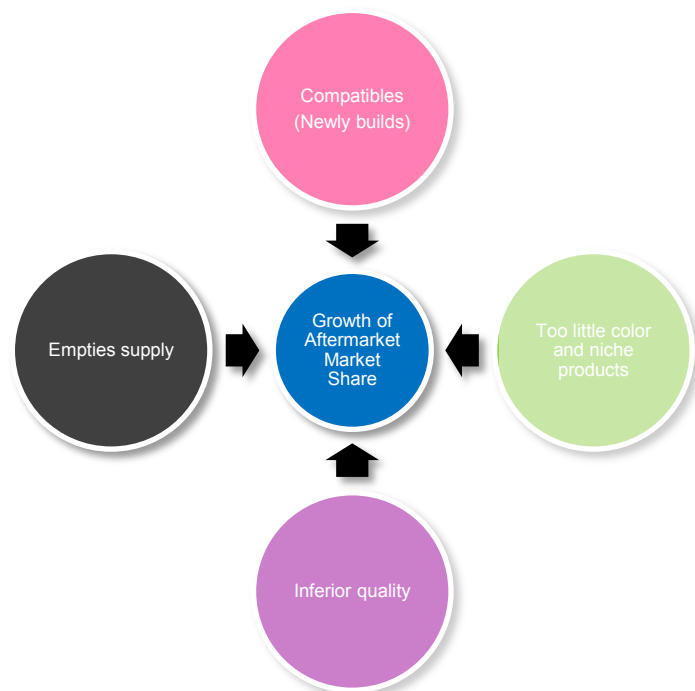


➔ In order to succeed long term you have to stop the compatibles market:
Start remanufacturing or start buying remanufactured cartridges!

- **Compatibles give ammunition for the OEM to attack.**
- **Low prices only lead to even lower prices**
 - This price spiral will lead to being unprofitable.
 - Constantly having to lower prices is generating a lot of pressure on the manufacturers to save cost and to consequently lower quality.
- **Competition between remanufactured and compatibles.**
 - Newly build compatibles are usually made in countries that have a temporarily competitive advantage such as favorable exchange rates, subsidies, lower labour cost, etc.
- **There are no green credentials for compatibles.**
 - Compatibles use a lot of resources and cannot be remanufactured → they quickly end up as e-waste.
- **Tests show that compatibles often offer lower quality than good remanufactured cartridges.**

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Empties are the basis for our Industry



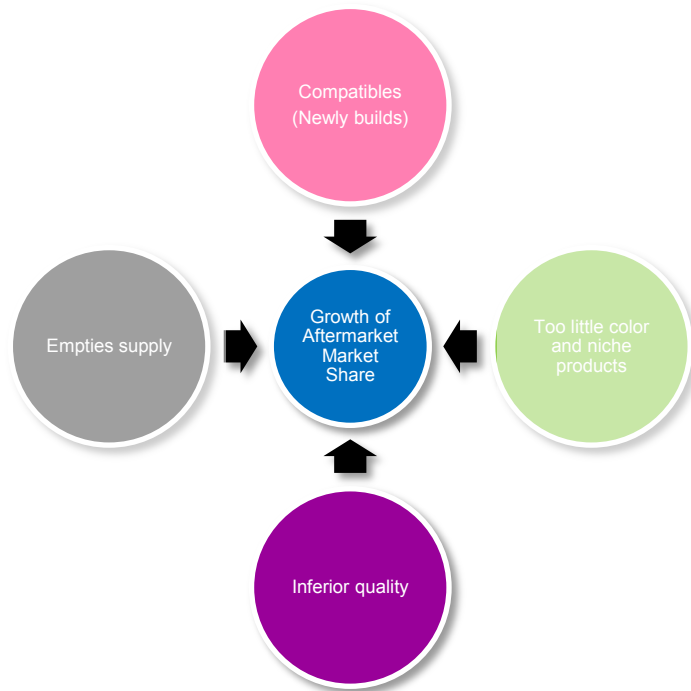
➔ **In order to succeed long term you have to secure your empties supply:**

Start collecting and stocking empties!

- **Availability of good quality empties is essential for remanufacturing high quality cartridges.**
- **OEMs and large aftermarket players are trying to secure a large share of the empty supplies in order to have a competitive advantage by drying off the competition.**
 - OEMs have started their own collection programs
 - OEMs buy empties off of empties brokers
 - Large South East Asian remanufacturers are buying huge quantities of empties to switch more to remanufactured products because of the law suits in the US on compatibles.
 - The biggest remanufacturer in the world is backward integrating into the empty supply market in order to secure availability of empties and to dry off the competition.

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Low quality kills the aftermarket

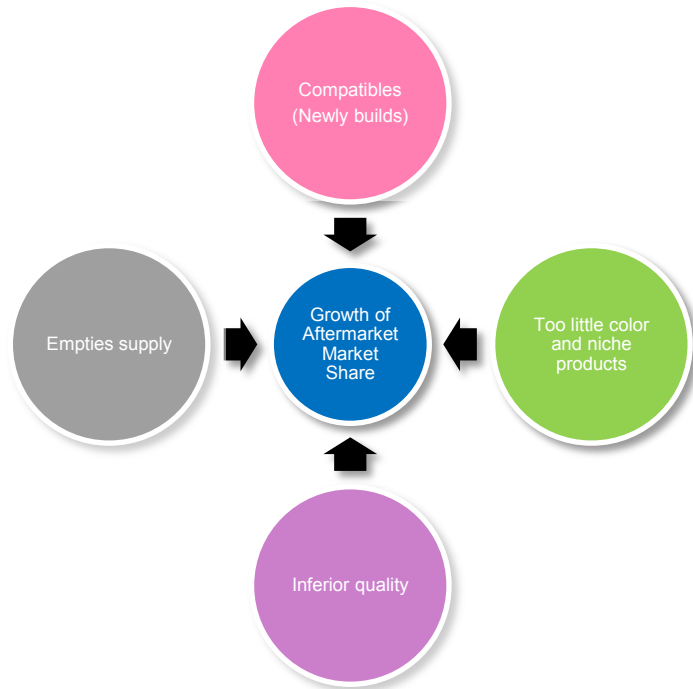


→ In order to succeed long term you have to improve cartridge quality:
Start making good quality cartridges!

- **Because of multi cycle “drill and fill” the quality of aftermarket cartridges is not up to an achievable level.**
 - OEMs also experience price pressure and OEM cartridge components are beginning to be of lesser quality than a couple of years ago.
 - Remember: OEM components are designed to survive one Cycle plus safety margin only!
- **Use of cheap and inferior quality components and toner lead to poor cartridge quality.**
 - A lot of cheap Asian components are made for compatibles and NOT for empty OEM cartridges!
 - Good toner has a certain price because it uses new ingredients and not recycled ones.
- **Low quality aftermarket cartridges provide evidence for the OEMs to use in anti-aftermarket campaigns.**
- **An End-user with bad experience is a lost opportunity for the future.**

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Currently the focus is on the highly competitive mainstream products



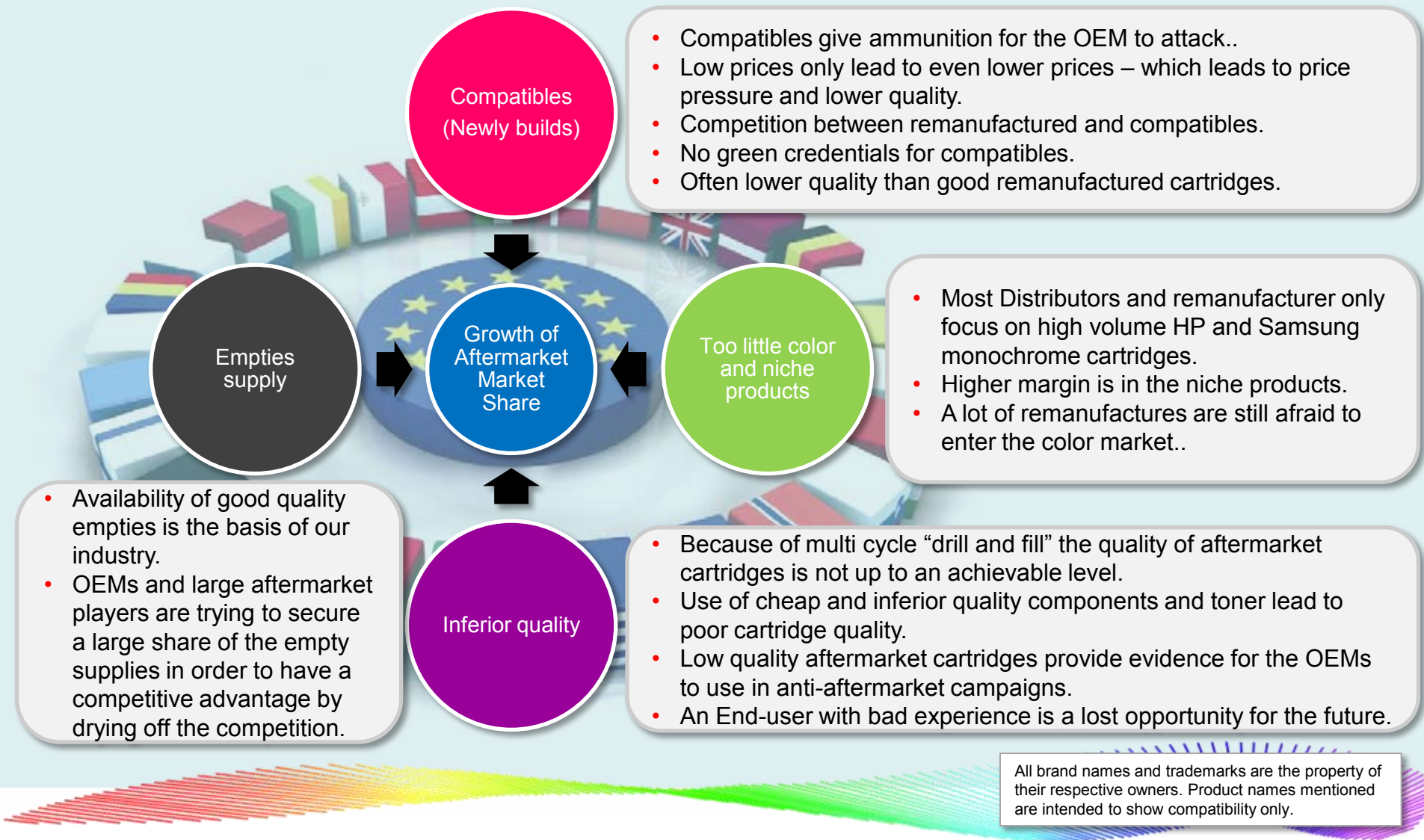
→ In order to succeed long term you have to switch focus:

Start making colour and niche products!

- Most Distributors and remanufacturer only focus on high volume HP and Samsung monochrome cartridges.
- Higher margin is in the niche products such as:
 - COLOUR CARTRIDGES – unfortunately still a niche!
 - Brother
 - Kyocera
 - Lexmark
 - Etc.
- A lot of remanufactures are still afraid to enter the color market.
 - They do not know how to build good quality colour cartridges
 - They are afraid to lose monochrome business if offering low quality color cartridges
- The window is wide open for the OEM.

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Summary



You can grow the aftermarket share!



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What are the best shots we have to capture market share from the OEM?

Price advantage

- The switching barriers varies. 20-40% seem to be a fair value.
- Low prices are often associated with low quality.

Comparable performance

- World Class suppliers.
- Availability of Chemical Toner just like the OEM.
- Worldwide recognized STMC testing standard.

True innovations

- Jumbo Cartridges (with enlarged Hoppers).
- Conversion Kits to turn low value empties into high value cartridges.
- Bio-based toner and bio-based plastics.

Green credentials

- Refill instead of land fill.
- Reuse is more favorable than recycling.
- Better carbon footprint.

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Let us have a closer look at two of these ...

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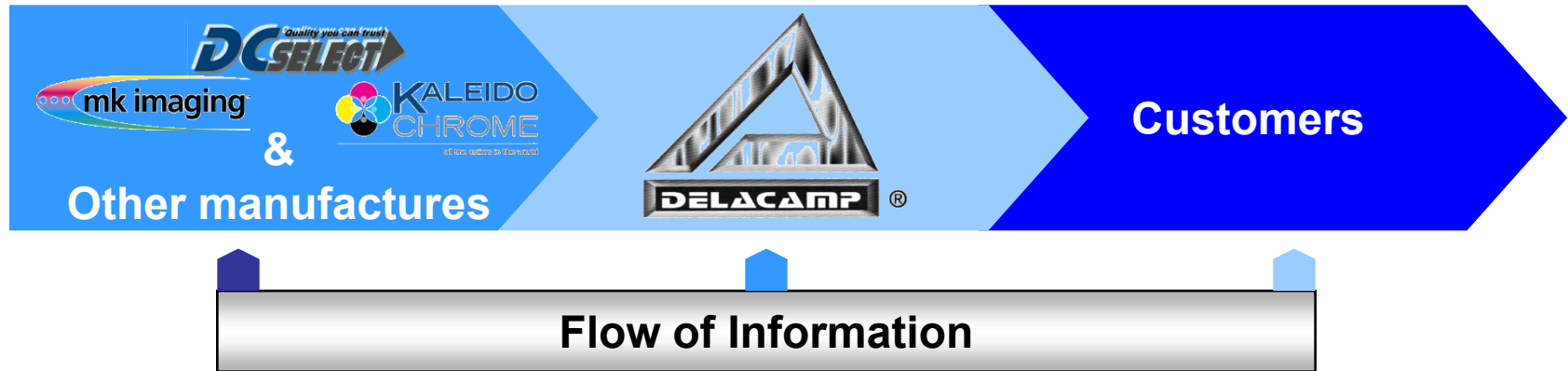
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DELACAMP teams up with world class manufactures

Comparable performance



End-to-End Integration



- cooperative R&D enables us to offer high quality products
- we make the relevant products available according to the market demand
- Fitness for use is important
- First-to-market with as many products as possible
- our cost structure enables us to offer good prices / value

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Mitsubishi Kagaku Imaging Corporation our global partner for OPC and Toner

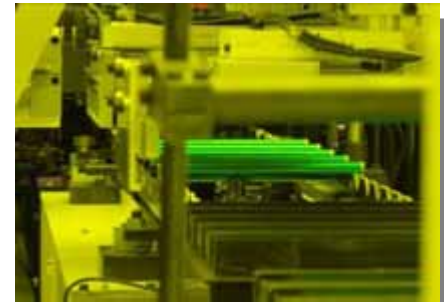
Comparable
performance



MKIC (Mitsubishi Kagaku Imaging Corporation) has been the world's premier manufacturer of precision OPC drums and toner for over 25 years. MKIC are the only manufacturer of both, thus MKIC possesses the unique technical capability to engineer matched systems of these two critical components.

MKIC was the first manufacturer to produce photoconductors with materials that were totally organic, and this revolutionary development is now the industry standard.

Today, MKIC produces over 300 varieties of safe, long-life OPC drums to meet the many unique needs of the aftermarket industry. Along with they advanced toner formulas, MKIC is able to create subsystems for virtually any imaging application.



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Chemical Toner is Future in colour Laser printing

Comparable
performance



Why are the OEMs turning to Chemical Toner?

- In order to print at 600 DPI, the toner size must be about 6-8 microns. To print at 1200 DPI (e.g. HP CP4525), control of particle size and shape is critical – this is virtually impossible with conventional toner. Chemical Toner is more consistent → consistent particle size and shape equals consistent charging properties.
- The higher yield of Chemical Toner allows for smaller cartridges resulting in smaller footprint printers → which are demanded by the market.
- Encapsulation permits good fusing at low energy levels (allows for Energy Star® qualification)
- Less V.O.C.s and CO₂

Which OEMs use Chemical toner?

- All major LBP OEMs! Canon, HP, Samsung (CLP320/325 is their first), Xerox, Ricoh, Konica Minolta, brother, etc.

Why the Aftermarket is clinging to Conventional Toner?

- Cost of Technology (e.g. R&D, Water Treatment and the cost of failure!)
- Intellectual Property

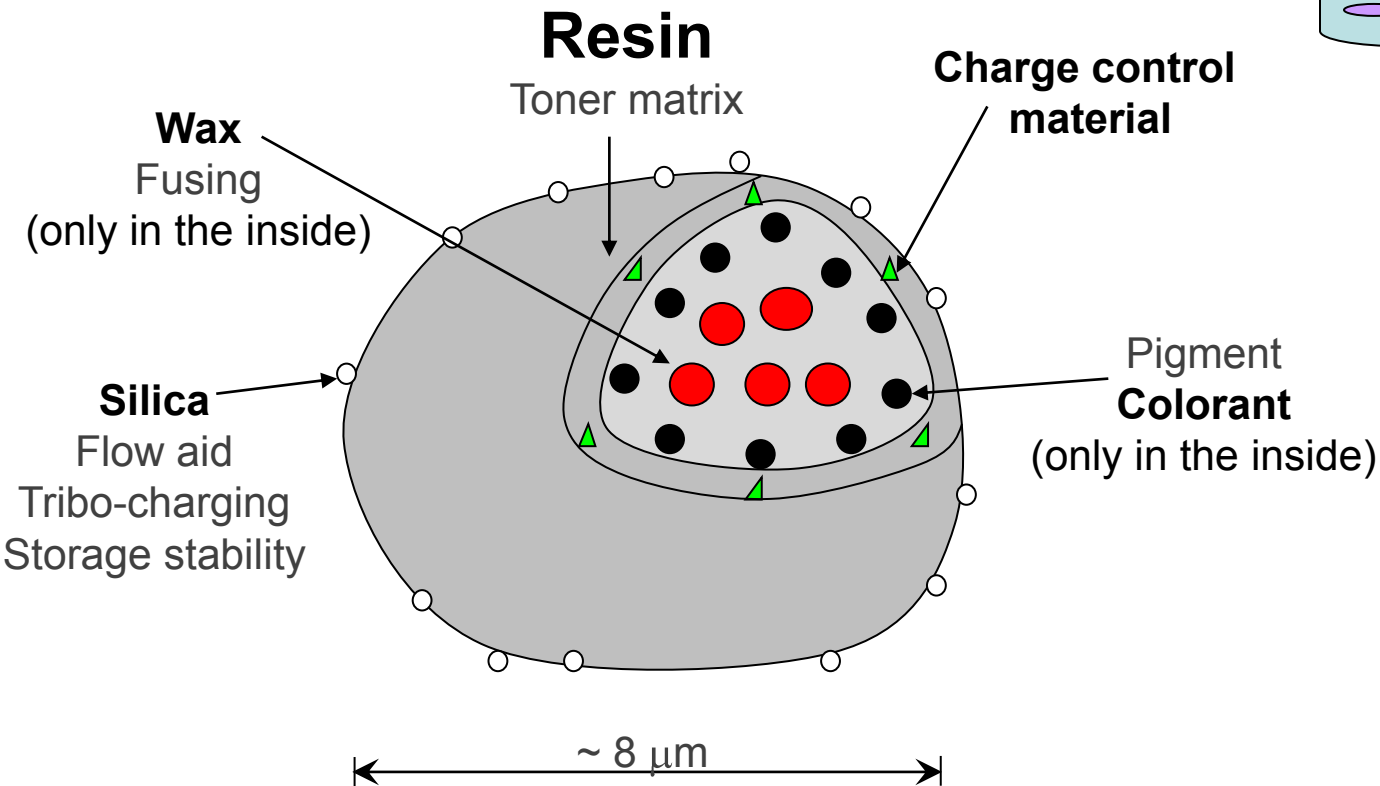
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Emulsion Aggregation Toner

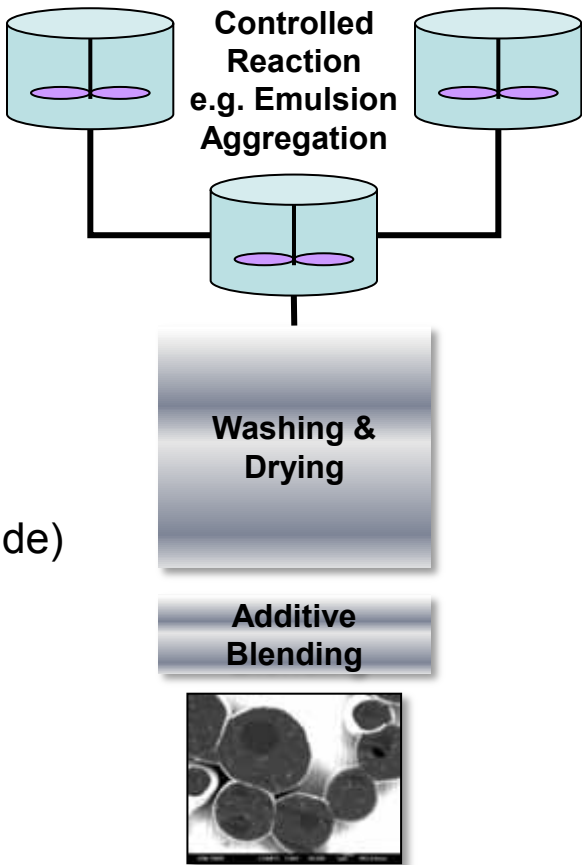
Comparable performance



Encapsulation: Wax and colorant on the inside- shell and additives on the outside



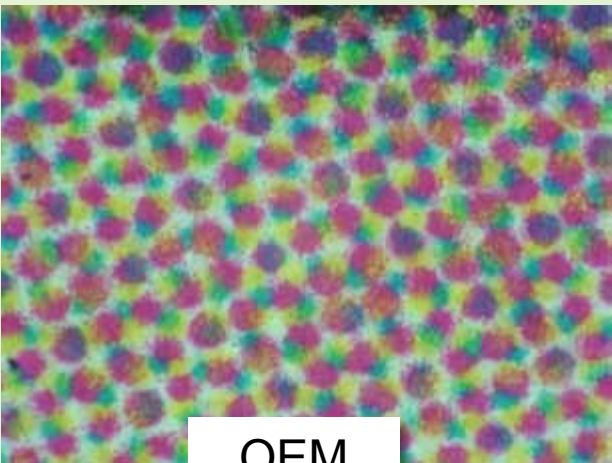
Chemical Toner



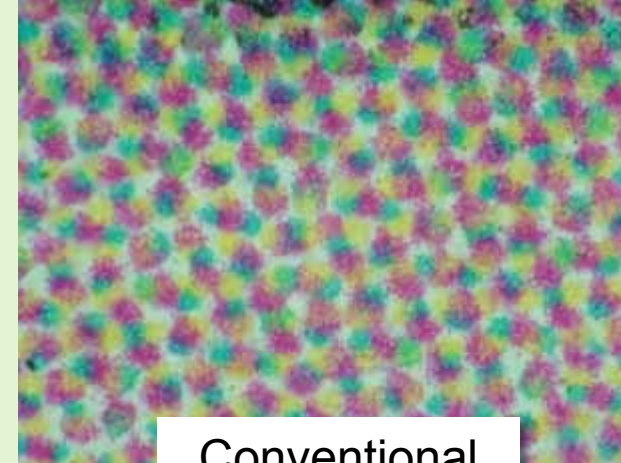
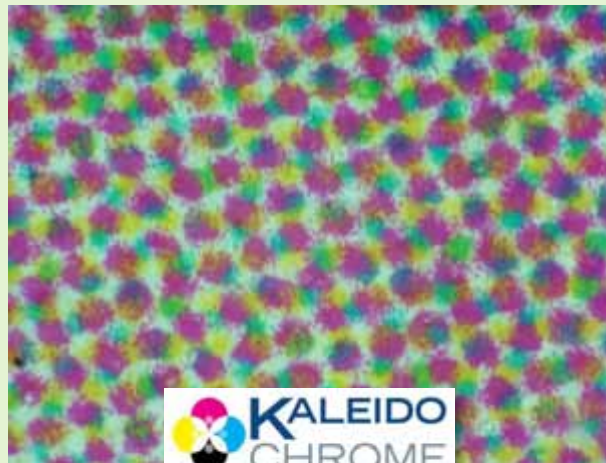
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Colour Quality only with Chemical Toner

Comparable performance



OEM



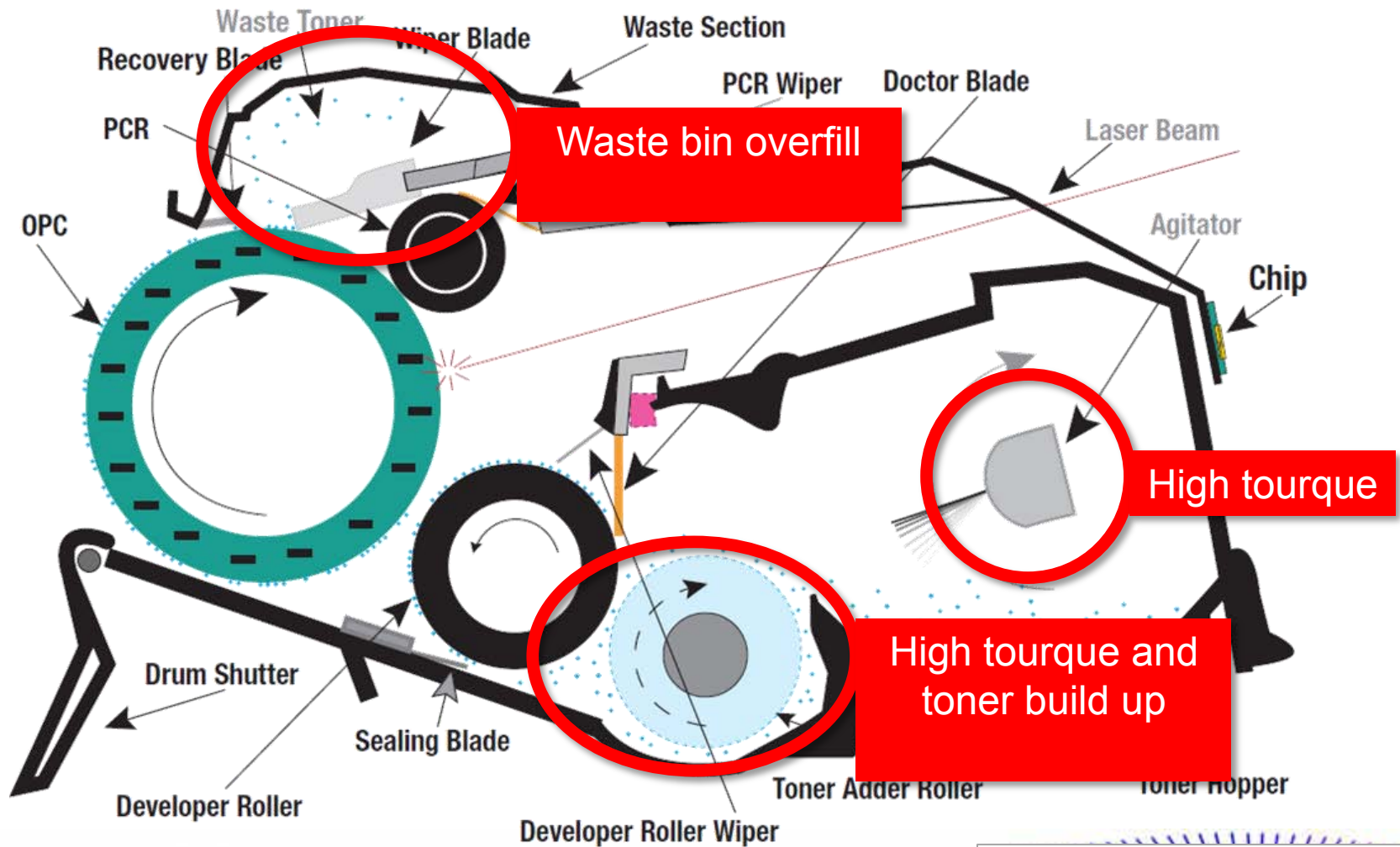
Conventional

HP CP3525

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Typical issues with non chemical toner in a modern Colour Cartridge

Comparable performance



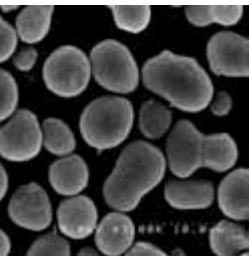
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Canon/HP OEM Chemical Toner Evolution

Comparable
performance



S-Toner™



HP4500
Release 1998
Speed (C/B)
4/16ppm
(4-cycle)

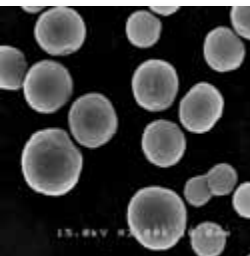
HP4500 W.U. Speed
Toner Analysis 250sec
(Halogen)

D50 vol. : 7.3um
<5 pop. : 13%
Circularity : 0.975
Sp : 137deg-C

Fuser exposure
time pp C* : <15sec.



New S-Toner™



HP4600
Release 2002
Speed (C/B)
17/17ppm
(Tandem)

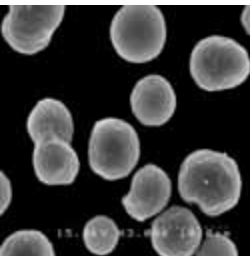
HP4600 W.U. Speed
Toner Analysis 29sec
(IH)

D50 vol. : 6.6um
<5 pop. : 22%
Circularity : 0.974
Sp : 123deg-C

Fuser exposure
time pp C* : <3,5sec.



Color Sphere™



HP4700
Release 2005
Speed (C/B)
31/31ppm
(Tandem)

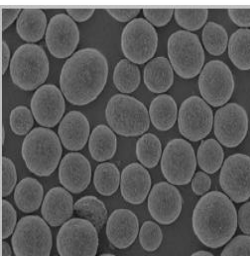
HP4700 W.U. Speed
Toner Analysis 0sec
(Ceramic)

D50 vol. : 6.9um
<5 pop. : 22%
Circularity : 0.978
Sp : 119deg-C

Fuser exposure
time pp C* : <1,9sec.



New Color Sphere™



HP CP3525
Release 2008
Speed (C/B)
30/30ppm
(Tandem)

HP CP3525 W.U. Speed
Toner Analysis 0sec
(Ceramic)

D50 vol. : 6.9um
<5 pop. : 10%
Circularity : 0.978
Sp : 123deg-C

Fuser exposure
time pp C* : <2sec.

*minus time in between pages

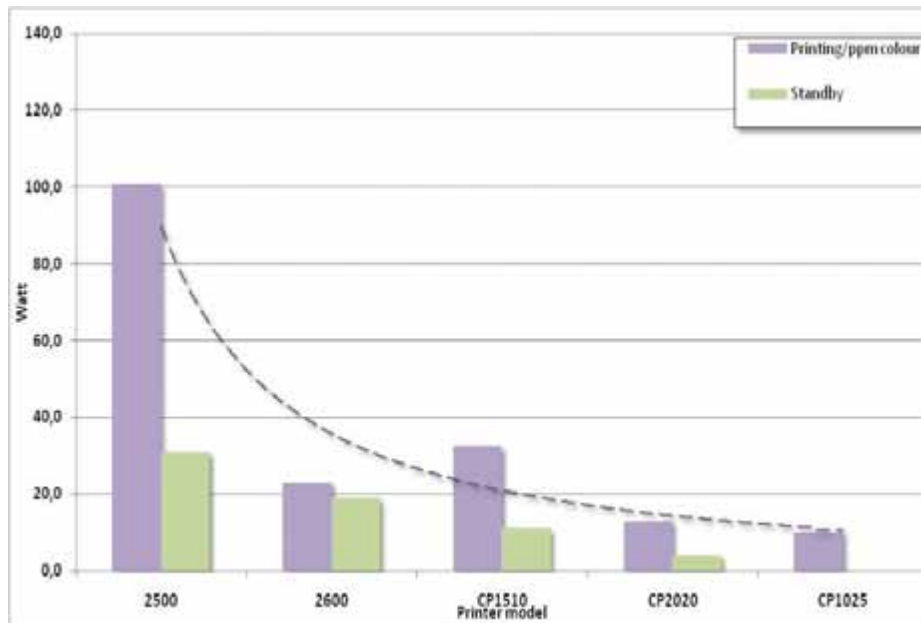
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The new fuser technologies lower the Power Consumption

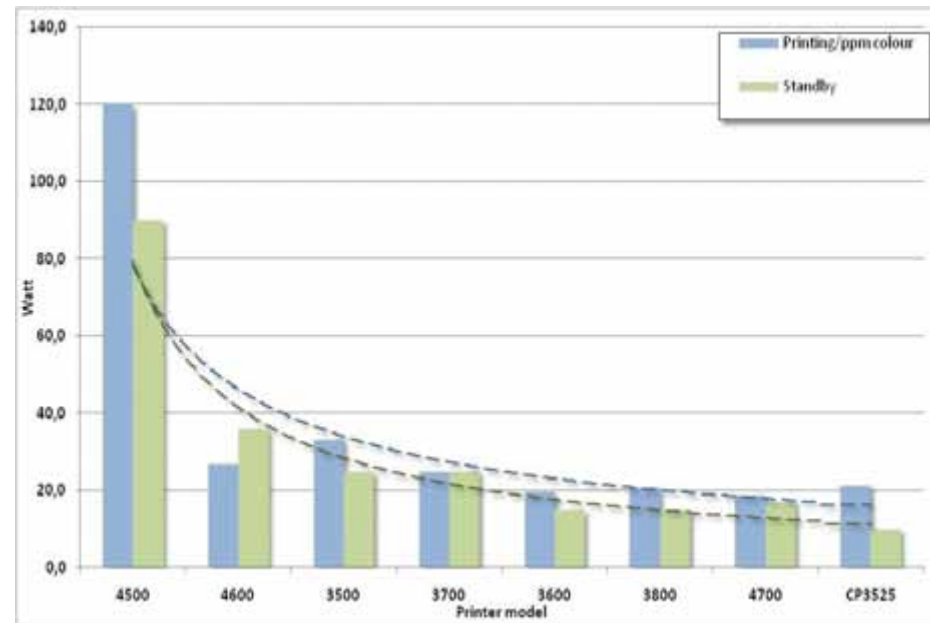
Comparable performance



- **Chemical Toner allow for lower energy consumption per page in colour printing and in standby mode.**
 - Helps to reduce precious resources by saving energy.
 - Enables the OEM to be Energy Star® qualified.



Smaller footprint colour printers



Group level colour printers

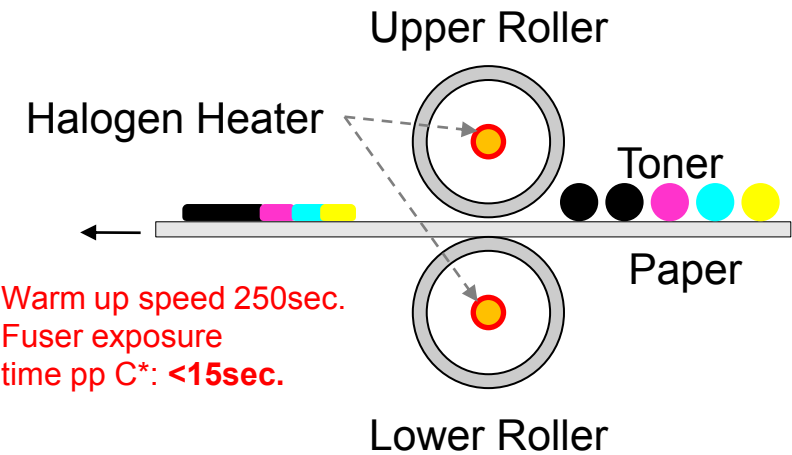
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Advances in Fuser technology

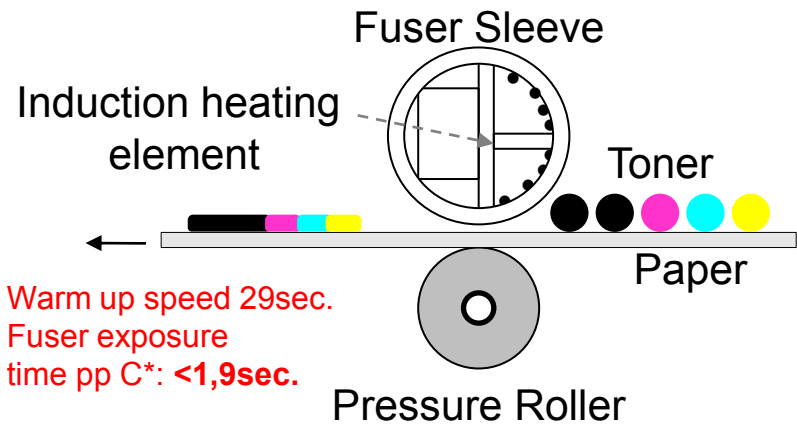
Comparable performance



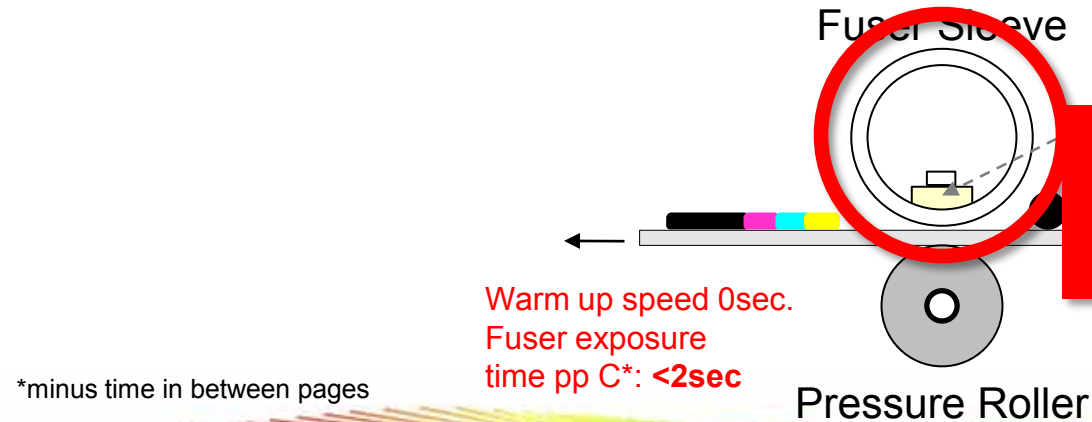
Old Style Fuser (HP 4500)



„Intermediate“ Style Fuser (HP 4600)



New Style Fuser (HP 4700)



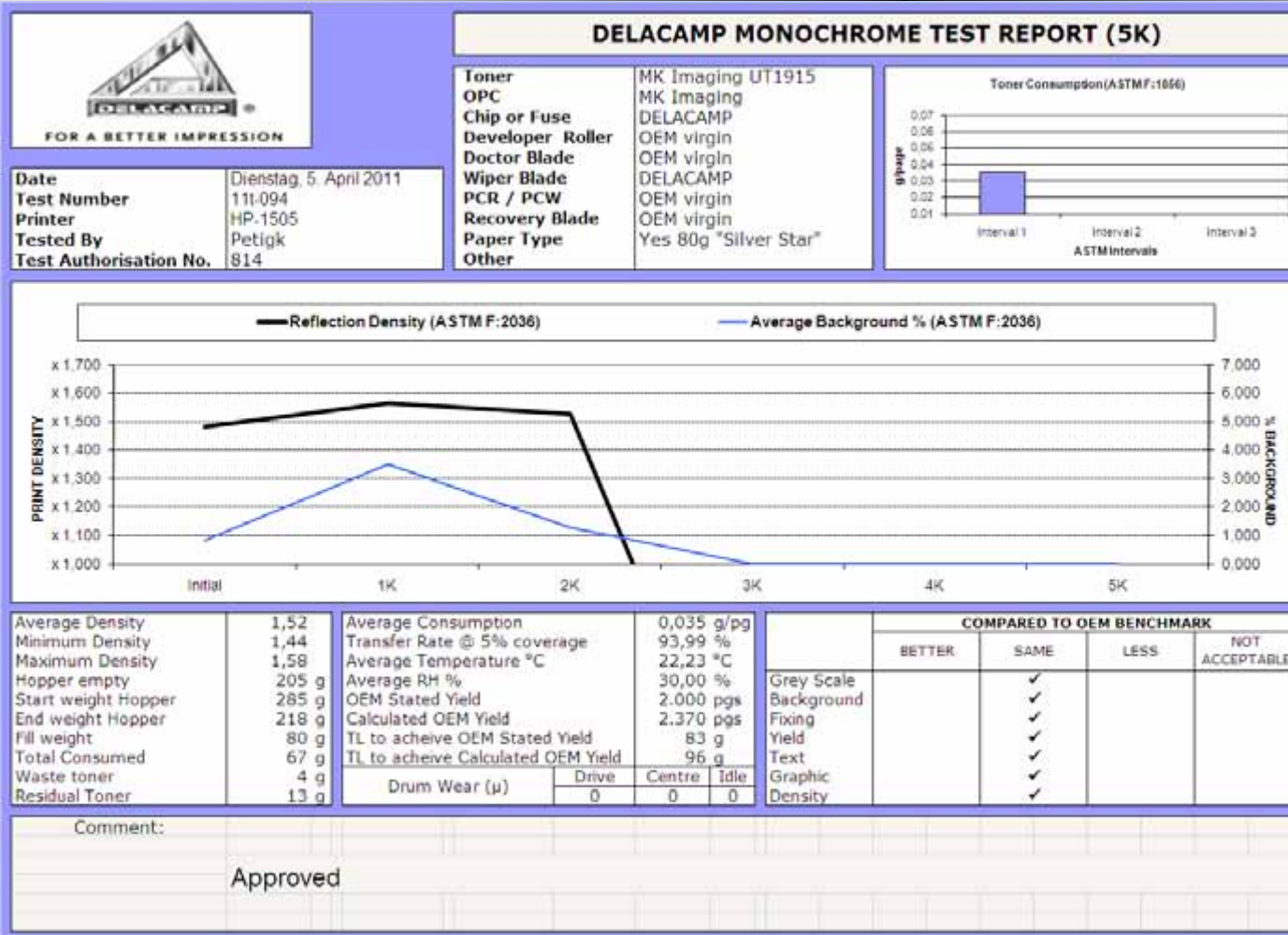
Non Chemical toners can produce build up on the fuser sleeve

*minus time in between pages

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STMC is the industry standard for print performance

Comparable performance

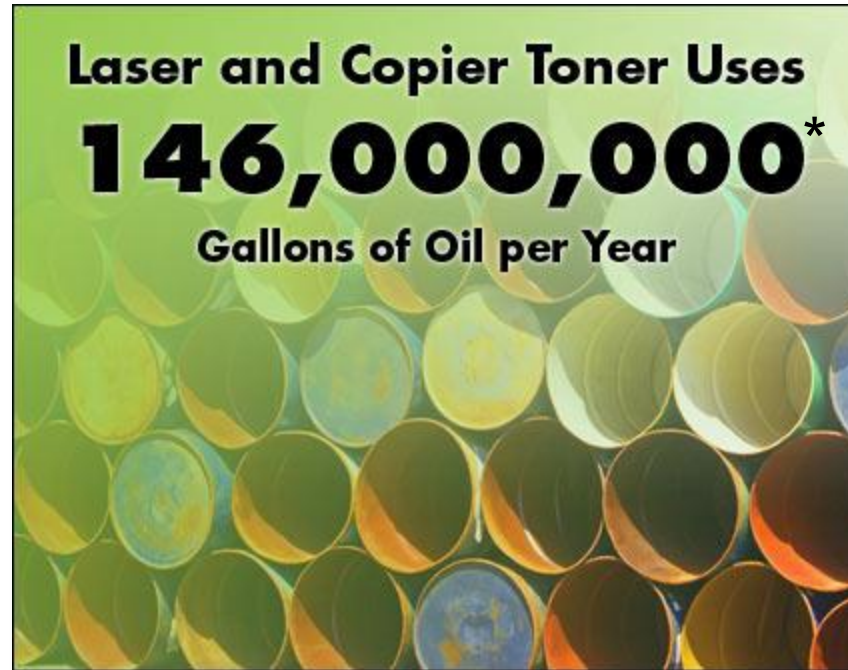


- STMC (the Standardised Test Committee) was formed in response to the demand from end-users for a standardised method to describe the performance of remanufactured cartridges.
- STMC Certified companies can display the STMC logo on their products and sales literature - the logo is an internationally recognised sign of responsible and honest remanufacturing.
- STMC Training is available from DELACAMP.

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Sad, but true. . .

True
innovations



*** 552.670.120 liters per year!**

That is about as much as the BP drill hole would have spilled into the gulf in one and a half year.

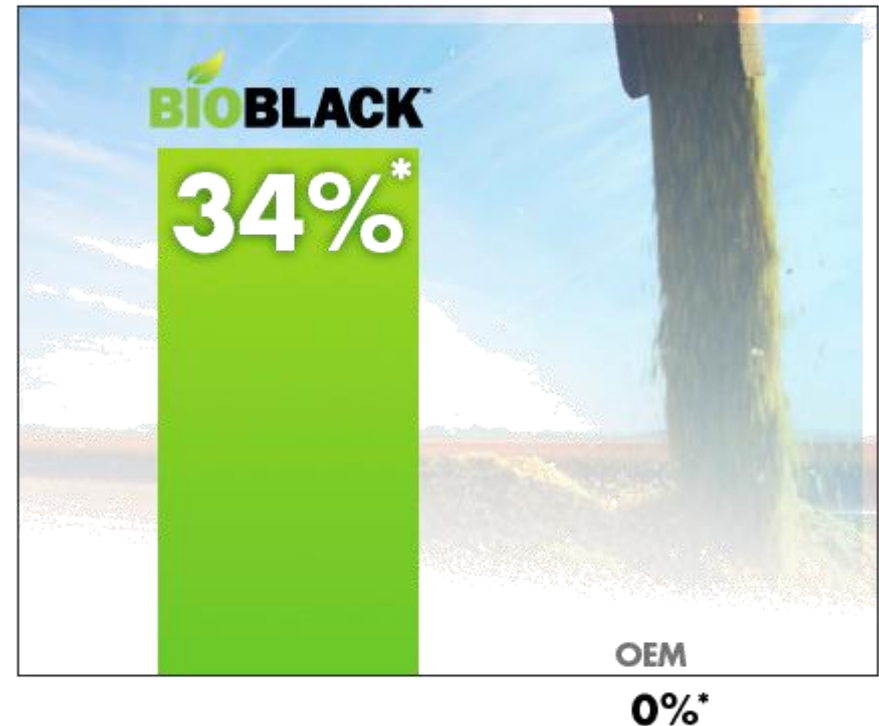
What is bio-based Toner?

True
innovations



- A Toner in which petroleum-based raw materials are substituted to a certain degree (> 20%) with renewable raw materials.
- Bio-based Toner is in an ecological competition with the OEM and not with conventional aftermarket cartridges.
- BioBlack™ is a Toner made using a bio-based resin with a proprietary patent-pending toner formulation using various agriculturally derived materials, which may include corn, cottonseed and soy.
- BioBlack™ Toner are tested according to STMC on print performance.

BIOBASED CONTENT



* While the ASTM-D6866 method cites a precision of +/-3%, these results indicate that the amount of bio-derived carbon in BioBlack™ toner is far greater than a competitive toner (and infinitely greater than the OEM) for the same amount of carbon in toner.

** The ASTM-D6866 method is similar to the radiocarbon dating method, which measures the amount of carbon-14, which exists in bio-based materials, but is non-existent in fossil-based materials such as petroleum.

Conventional Toner

Mixing of
Raw Materials

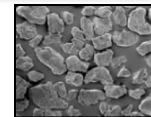
Extrusion
(melting together)

Cooling

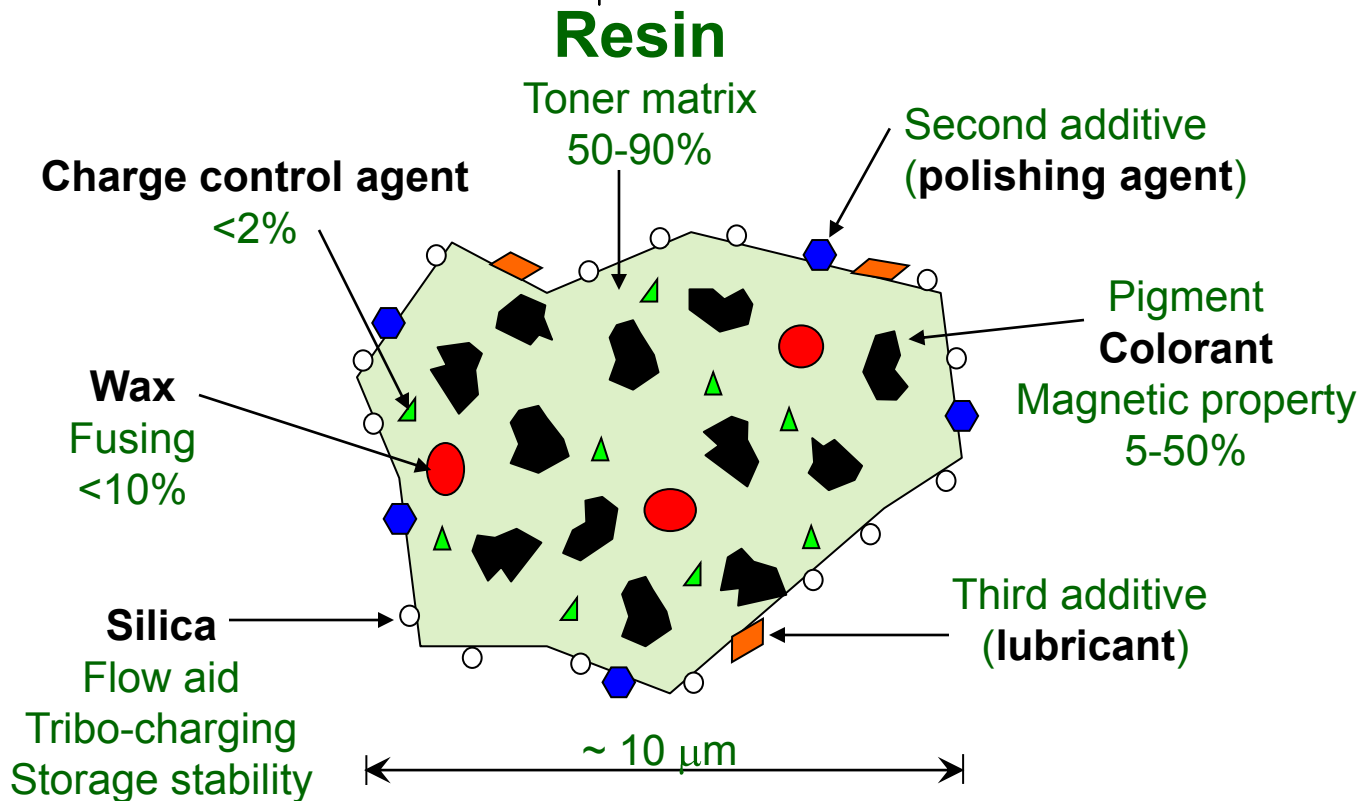
Crushing
(e.g. jet- or
Hammer mills)

Classification

Additive
Blending



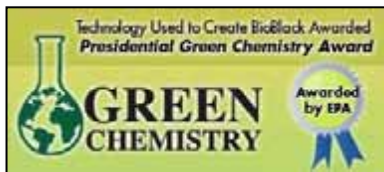
Resin can consist of up to 70% of crude oil. With BioBlack™ up to 34% of the crude oil can be substituted by bio-based materials.



- BioBlack™ Toner are LGA tested for contaminants.
- BioBlack™ is the first officially bio-based certified toner in the world.



Toner BioBlack™ UT 19H1 and/und UT19H2



What bio-based Toners are in the pipeline?

True
innovations



- **Available:**
 - UT19H1: >30 % bio based resin for use in HP1010
 - UT19H2: >30 % bio based resin for use in HP 4000/4100
 - UT19H3: >20 % bio based resin for use in HP 4200/4300.
- **soon:**
 - LGA test reports for all new UT19Hx Toner (already available for UT19H1 and UT19H2).
 - “okbiobased” Certification for all new UT19Hx Toner (already done for UT19H1 and UT19H2).
- **Q3/4 2011:**
 - UT19H4: for use in HP 1160, 1320, 2400er series, P2015, P3005
 - UT19H64: for use in Lexmark T630 and T640 series
- **Q4 2011/Q1 2012:**
 - UT19HFX: For Kyocera Engines

Remanufactured toner cartridges using BioBlack™ are available from reputable manufacturers.



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Any Questions?



Thank you