



**Which directions are the OEM taking and  
what are the implications for the  
Aftermarket  
Moscow September 2012**

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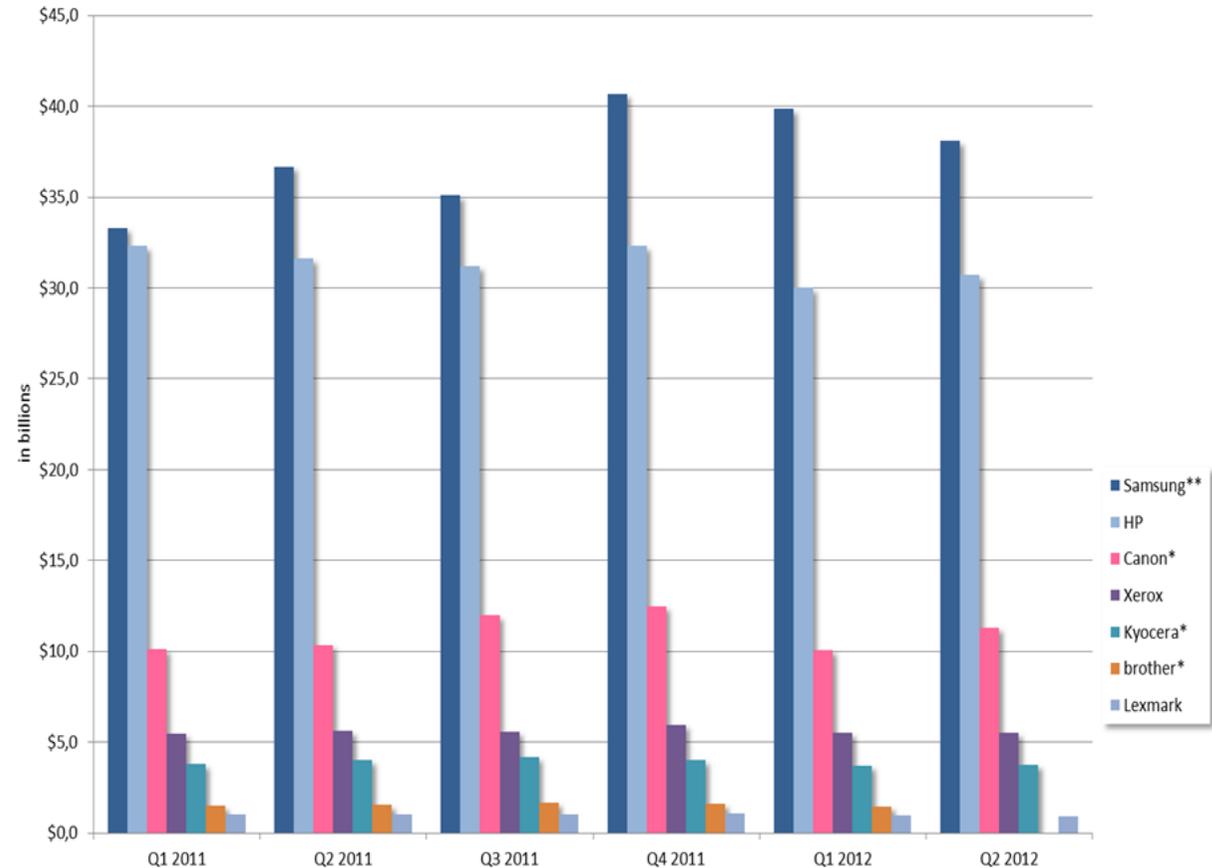
# The relevant OEMs are facing two main issues

## Lower revenue and Technological advances



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- **Shrinking profitability**
  - The current state of macroeconomic affairs lead to a lot of uncertainty which influences every business.
  - Technology advances push you back if you do not stay on top of them.
  - Fakes and newly builds do influence the revenue stream coming from imaging supplies.



\* converted from JPY into USD using end of each Quarter exchange rates  
\*\* converted from KRW into USD using end of each Quarter exchange rates

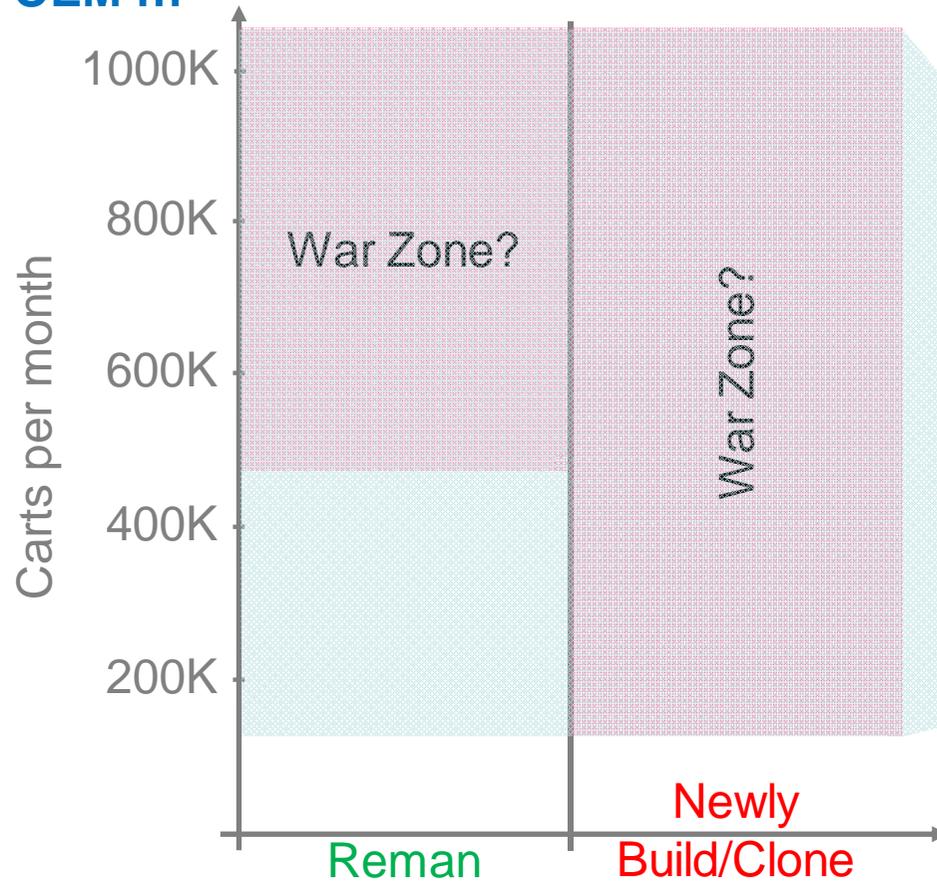
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# Implication 1: being too big and dealing with newly builds and clones puts you on the radar of the OEM



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The 2010 and 2012 actions by the OEM suggest that there are certain battle lines for the OEM ...



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## Lower revenue and Technological advances



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- **Technological advances:**

- Managed Print Services are easier to use and to offer and get a lot more attention by larger companies and corporations now.
- Apple's gains in market shares with their proprietary technology - which does not include printing – was being allowed to long by big players like HP and Samsung.
- Energy is getting more costly and energy saving is becoming a big thing. Printers need to consume less energy – especially true for the fusing units.
- Advances in display technology in TVs and Monitors raise the level of the accepted visual color images. The old color prints will just no do anymore.



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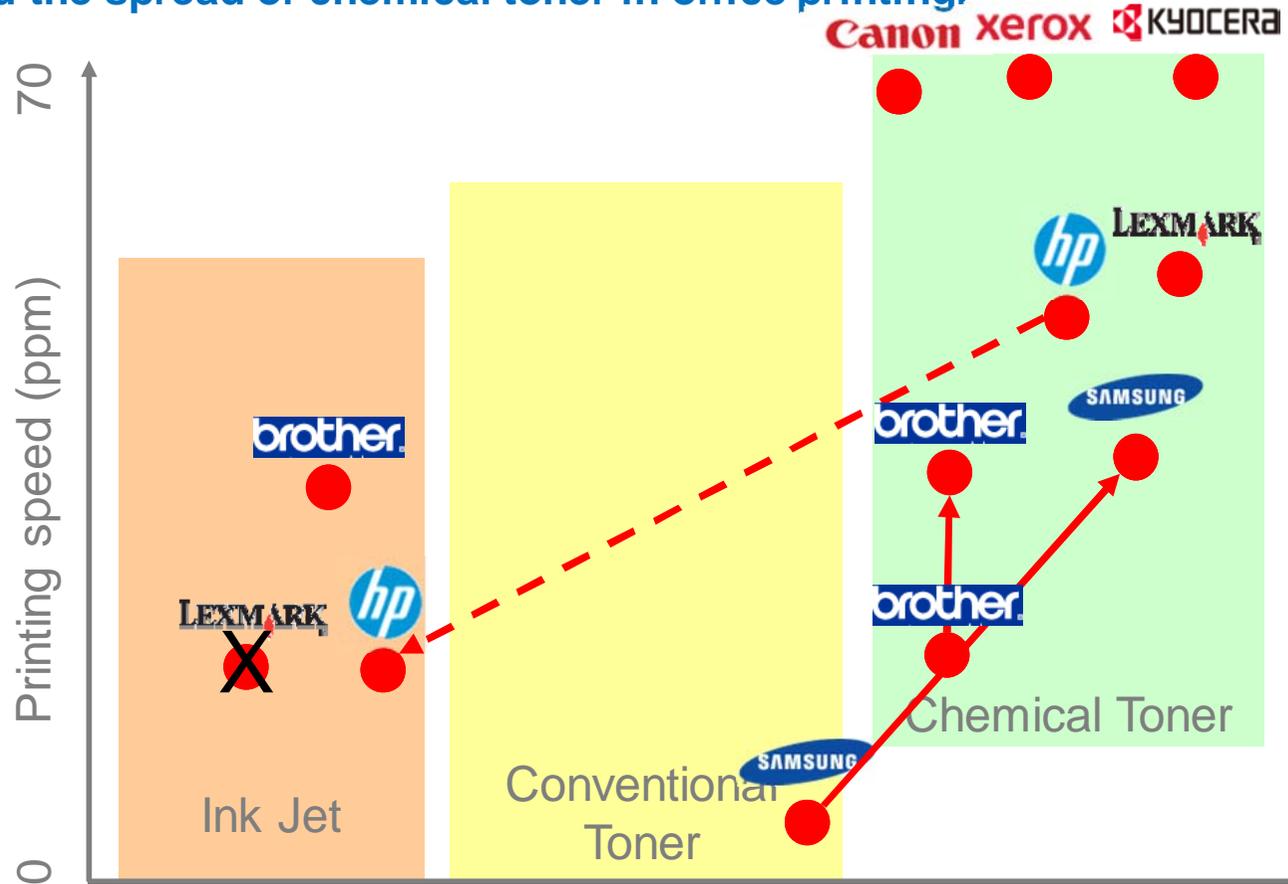
# The relevant OEMs are facing two main issues

## The approaches are all very similar – with the exception of HP



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- Technological advances are driving the development of higher speed printers, Color MFPs and the spread of chemical toner in office printing.



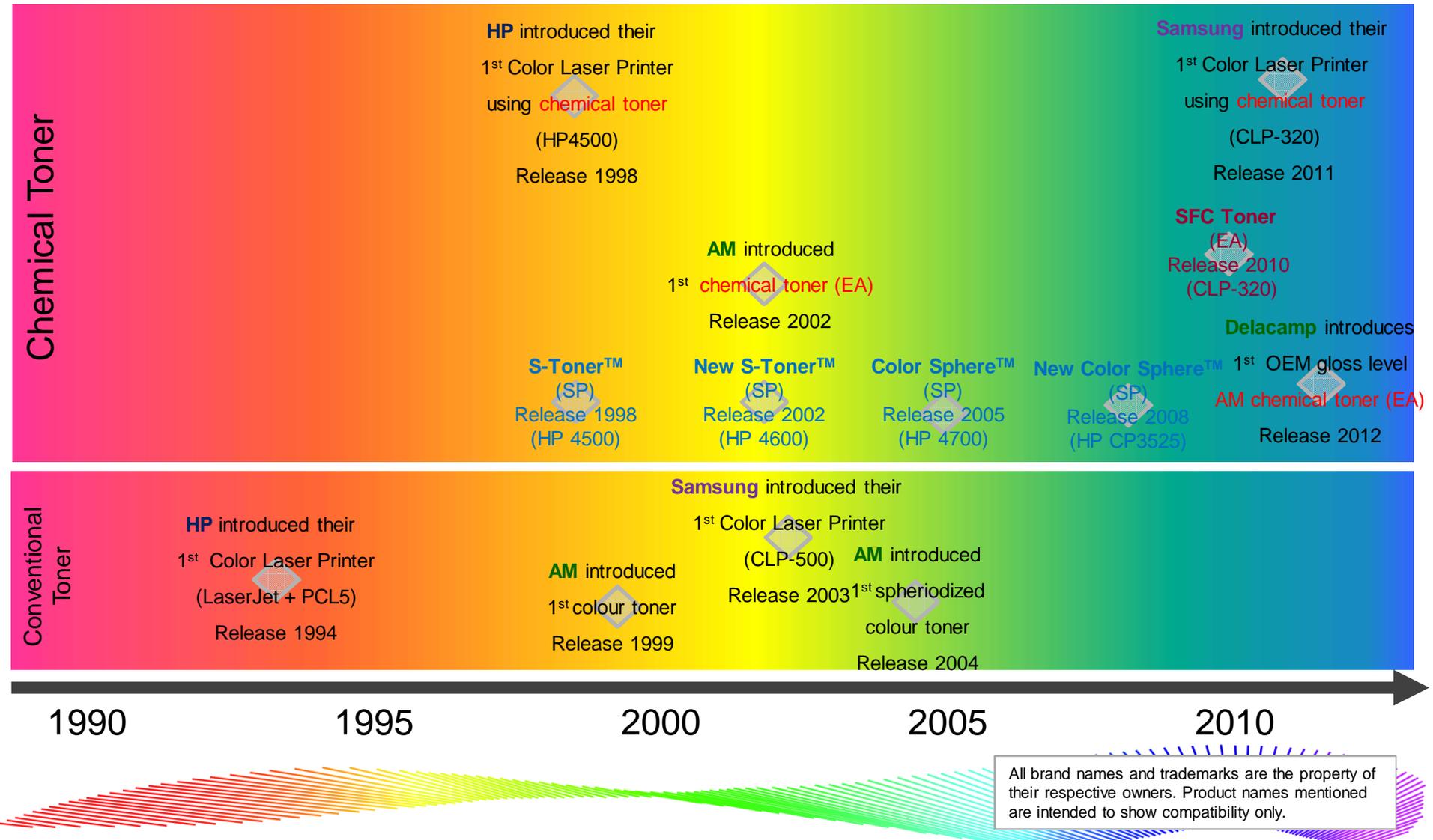
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# Colour Toner Evolution

Canon/HP and Samsung marketed LBP  
(together over 50% Market Share)



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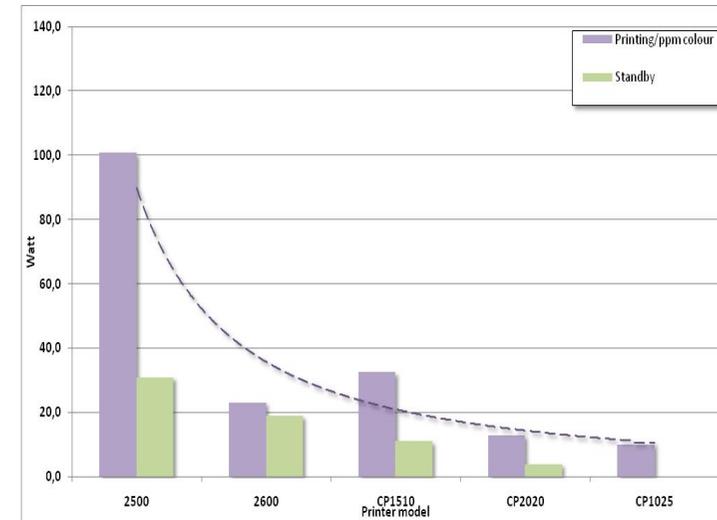
# Implication 2: Chemical Toner is the future in colour laser imaging. If the OEMs use it, you should, too.



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## Why are the OEMs turning to Chemical Toner?

- In order to print at 1200 dpi control of particle size and shape is critical – this is virtually impossible with conventional toner. Chemical Toner is much 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.
- Encapsulation permits good fusing at low energy levels (allows for Energy Star® qualification).
- Less V.O.C.s and CO<sub>2</sub>.



Smaller footprint colour printers

## Which OEMs use Chemical Toner?

- All major LBP OEMs! Oki, Canon/HP, Samsung, Xerox, Ricoh, Konica Minolta, Brother, etc.

## Why the Aftermarket is clinging to Conventional Toner?

- Cost of Technology
- Intellectual Property

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# Chemical Toner offers better OEM color match and similar gloss level



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Printed using a HP CP2025

Toner	Avg. dE
Conventional	6,663
 (current)	4,778
 (improved gloss)	4,755

dE < 4 not really visible by untrained human eye



Toner	Glossiness 80gr/m <sup>2</sup> plain paper	Glossiness 128gr/m <sup>2</sup> gloss paper
OEM	37,1	41,1
Conventional	18,6	16,3
 (current)	38	35,2
 (improved gloss)	37,8	39,2
Closest Competitor AM Chemical Toner (EA)	27,3	26,4

Gloss meter: Nippon Denshoku VG2000 taken at 75°

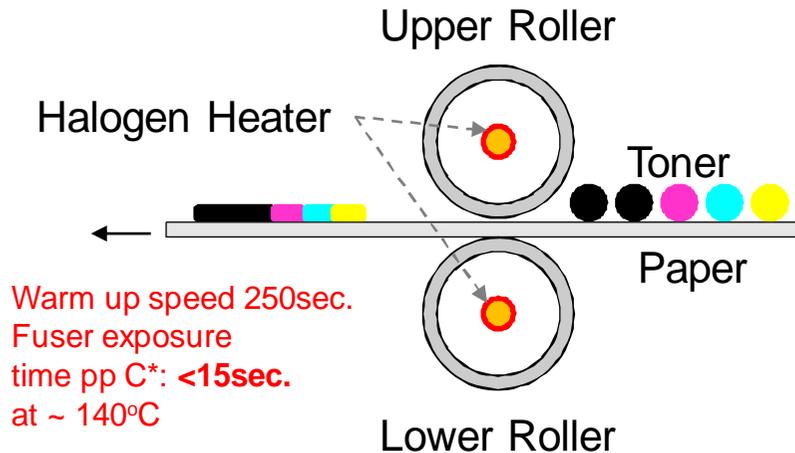
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# Chemical Toner offers better fusing

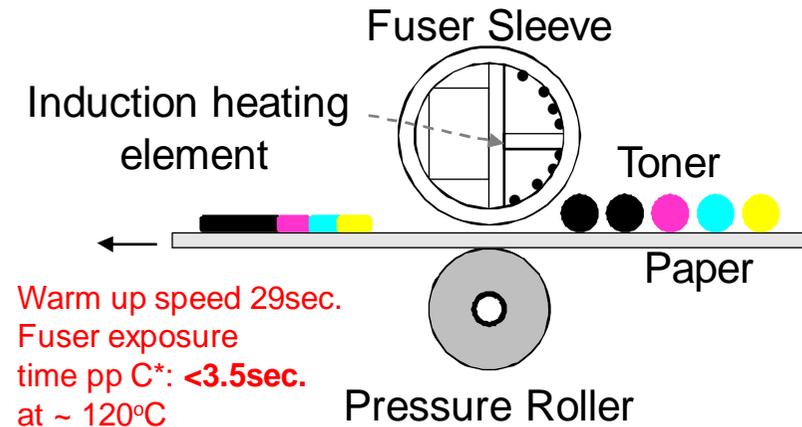


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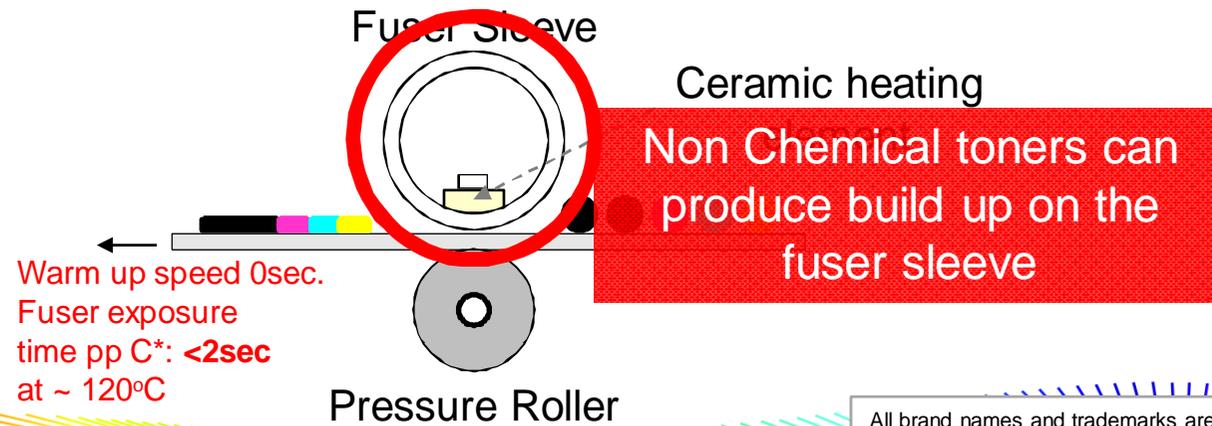
## Old Style Fuser (HP 4500)



## „Intermediate“ Style Fuser (HP 4600)



## New Style Fuser (HP CP3525)



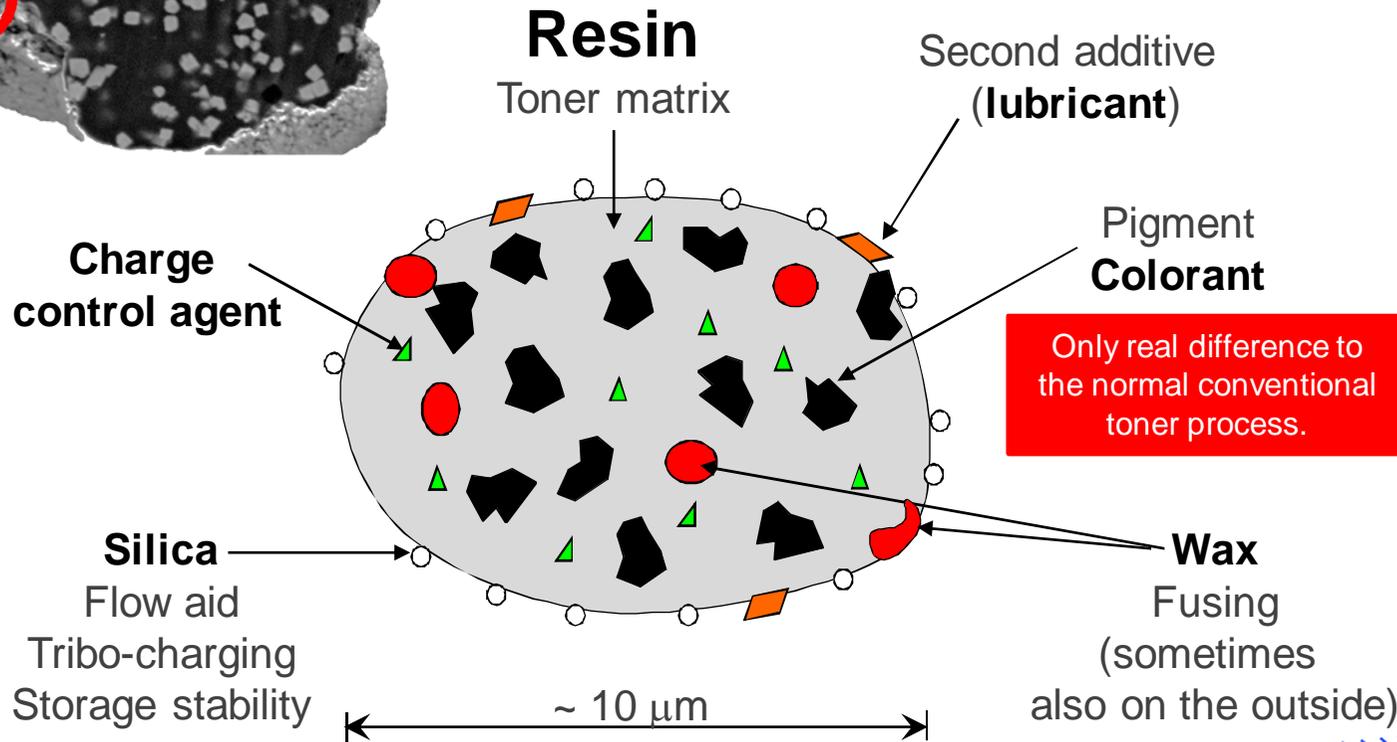
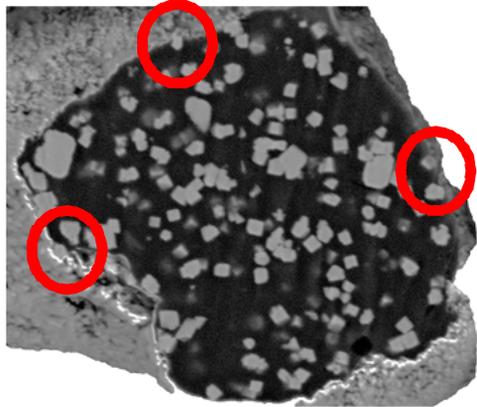
\*minus time in between pages

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# Spheriodized Toner

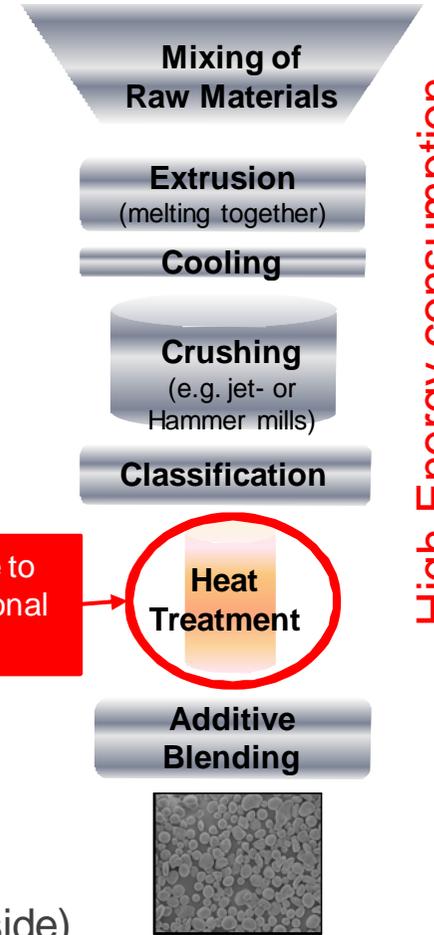


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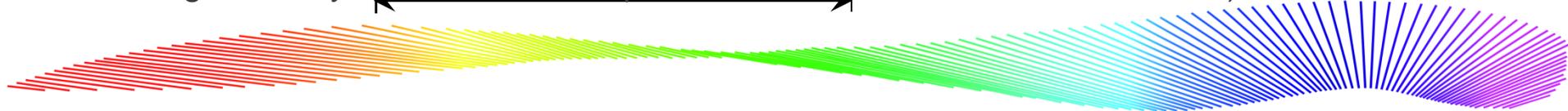
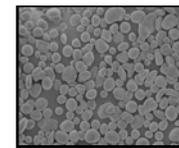


Only real difference to the normal conventional toner process.

## Conventional Toner



High Energy consumption



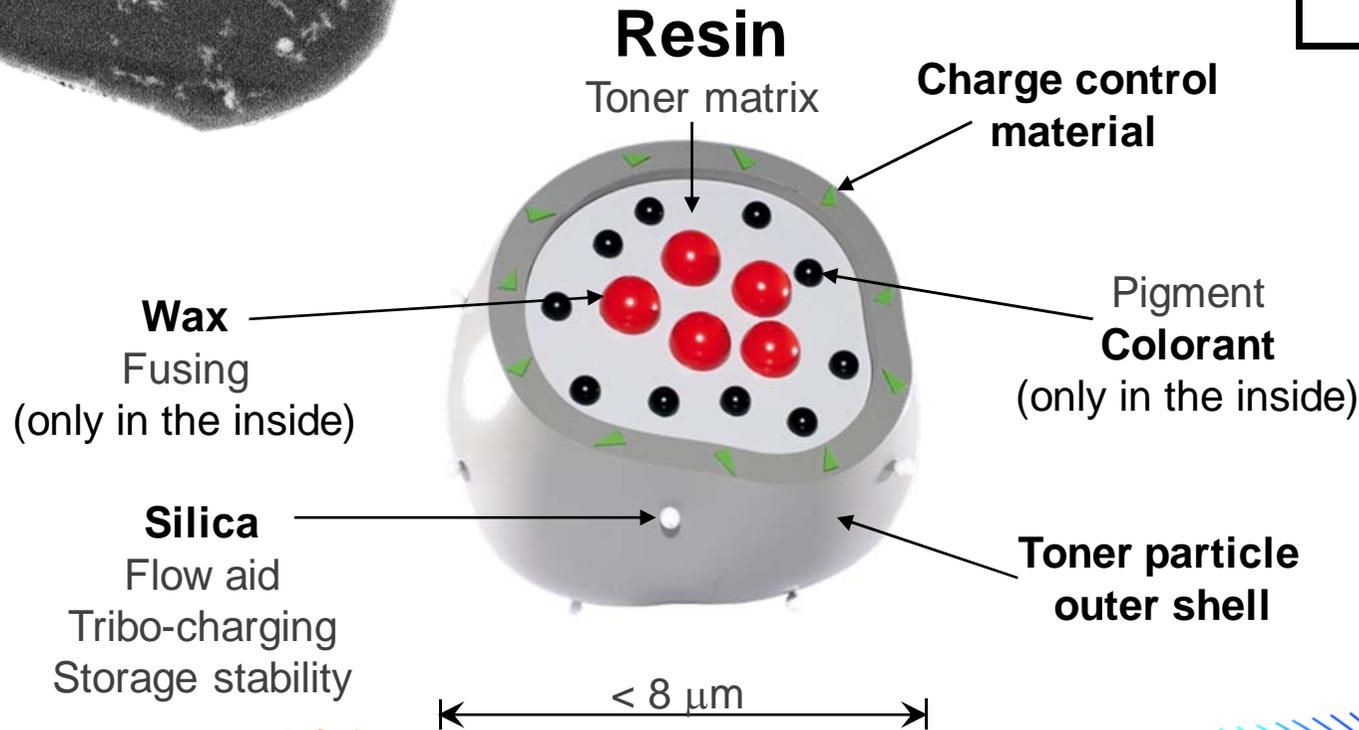
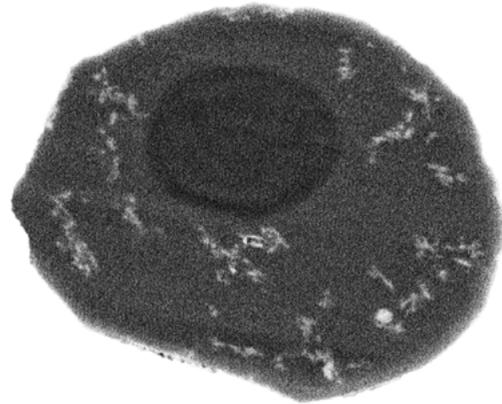
# Emulsion Aggregation Toner



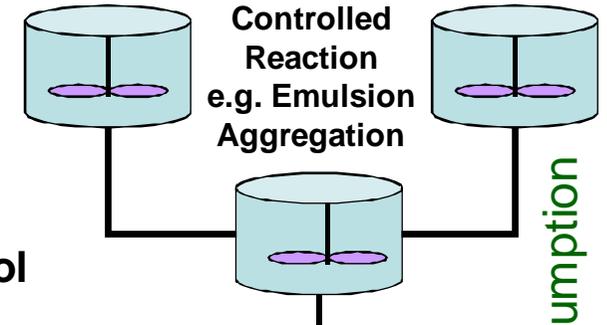
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## Encapsulation:

Wax and colorant on the inside and additives on the outside shell



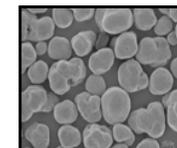
## Chemical Toner



Lower Energy consumption

Washing & Drying

Additive Blending



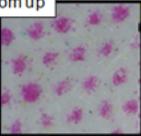
# Chemical Colour Toner offers real advantages in print quality



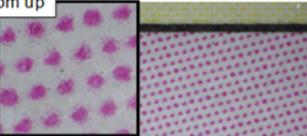
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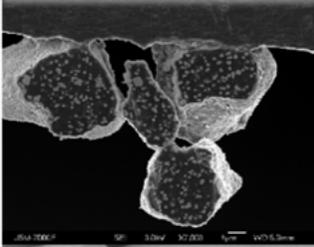
Conventional Toner 	Spheriodized Toner 	Chemical Toner 
Benefits compared to conventional toner	Apply to spheriodized Toner	Apply to Chemical toner
Uniform particle size	☹️	😊😊
Uniform particle shape	☹️	😊
High transfer efficiency	☹️	😊
High flow	☹️	😊
Uniform charging	☹️	😊
Low pile height	☹️	😊
Good Fusing	☹️	😊
Wide colour gamut	☹️	😊
Sharp half tones	☹️	😊
Minimal batch to batch variations	☹️	😊

Zoom up

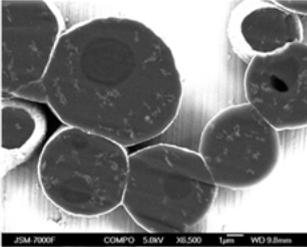


Zoom up



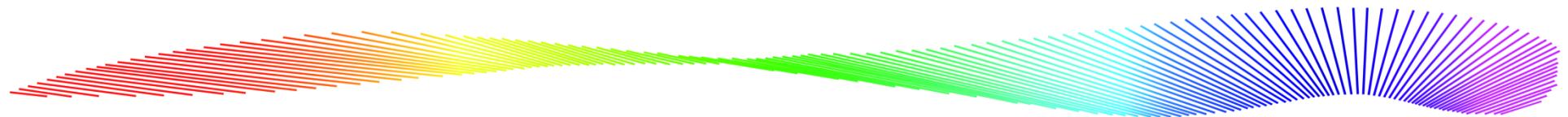


Conventional



Chemical

**Consequence: Chemical Toner offers better yield, better fusing, crisp colours and more consistency and less stress.**

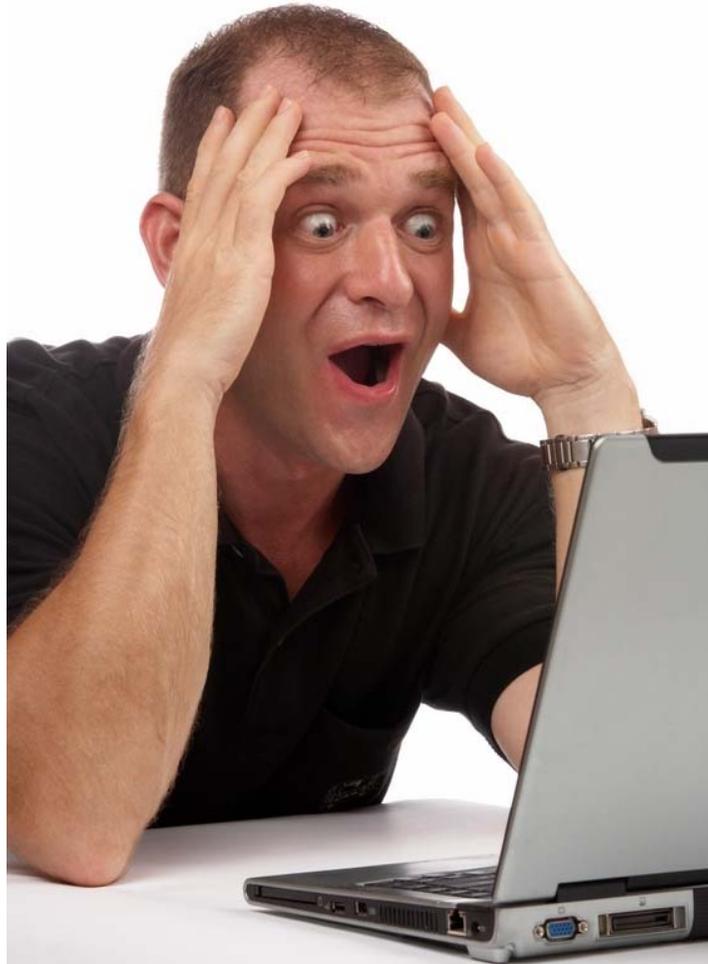




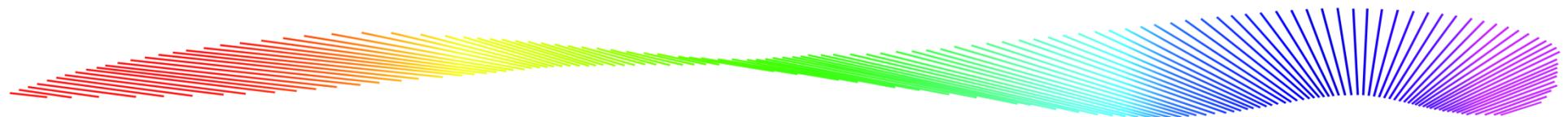
Setting The Tone For The Imaging Supplies Industry



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# Any Questions?





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# Thank you

