



# Inkjet Explainer Series

## Understanding Inkjet Drying Technology

May 26, 2021

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[#inkjetexplainer](#)



#inkjetexplainer

## Get the most from your time with us!

- **SEND US YOUR QUESTIONS DURING THE WEBINAR**
- Question control is in the lower left corner
- We may answer during the presentation
- There is a Q&A at the end
- **Video and audio archive will be uploaded later today along with PDF of slides**



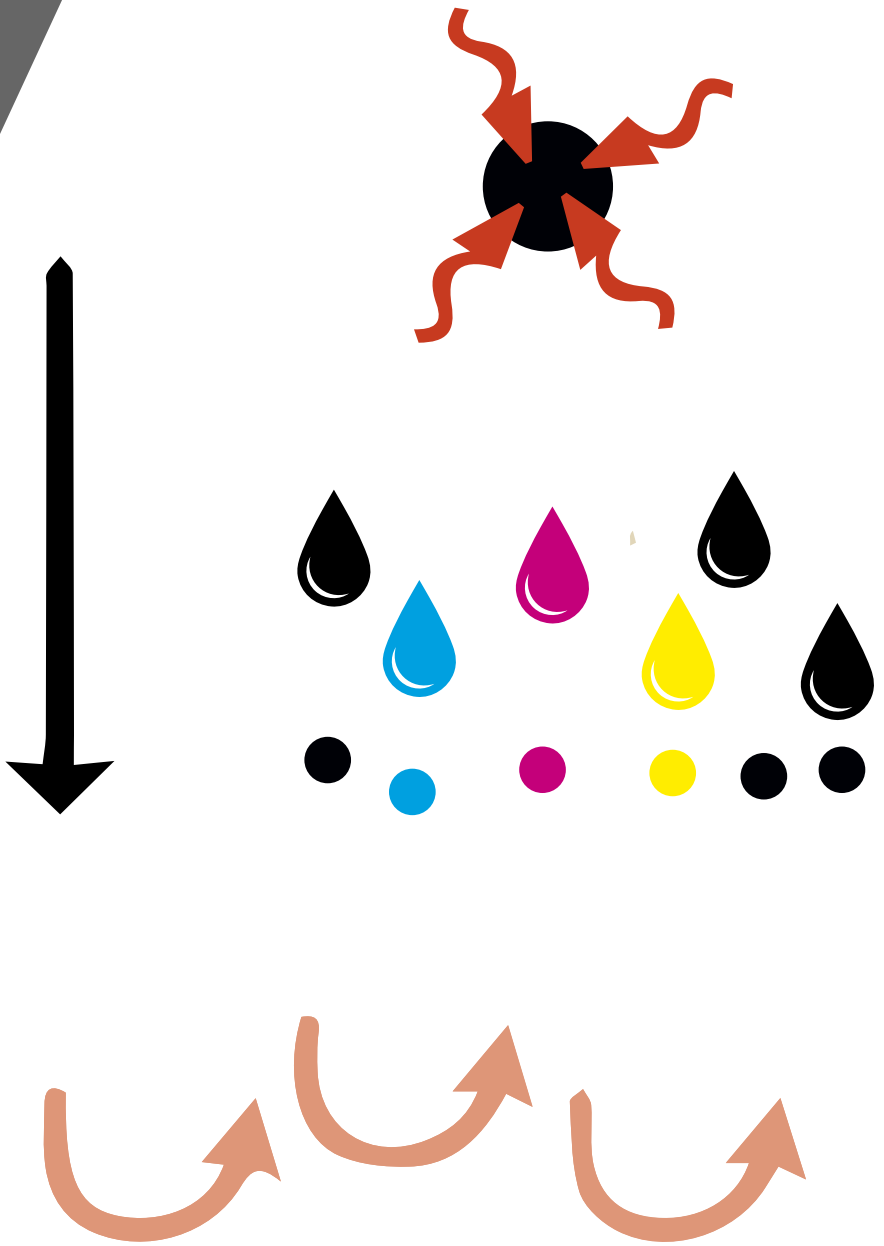
## **Our Explainers**

Mary Schilling, Inkjet Insight  
Dustin Graupman, SuperWeb  
Victor Salm Jr., RRD

adphos aNIR drying provides:

- Lowest Total Cost of Operation
  - Up to 4X Faster Production Speeds
  - Use of More Substrates (Higher Gloss and/or Lower Cost)
  - Less Energy (Electricity)
  - Less Ink, Adhesive and Coatings
- Higher Quality Throughput
  - Improved (Flatter) Finished Product (books, mail-pieces, cartons)
  - Improved Image Quality / Expanded Color Gamut
- Smallest Footprint
  - Up to 7x smaller than conventional IR/hot air

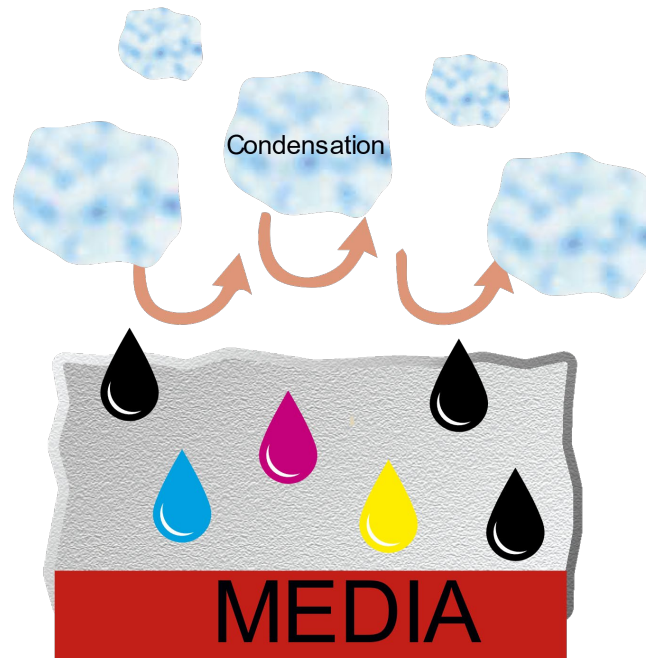
*Fun Fact: Did you know there are only 4 types of drying technology used for inkjet?*



# Drying-Types



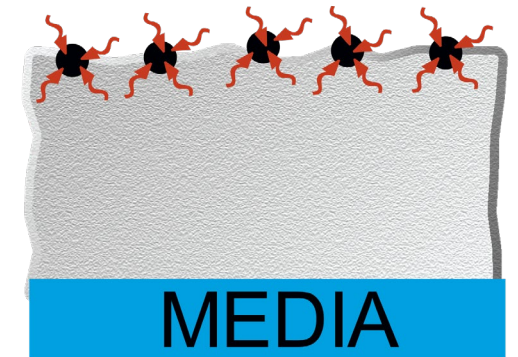
Absorption



Evaporation

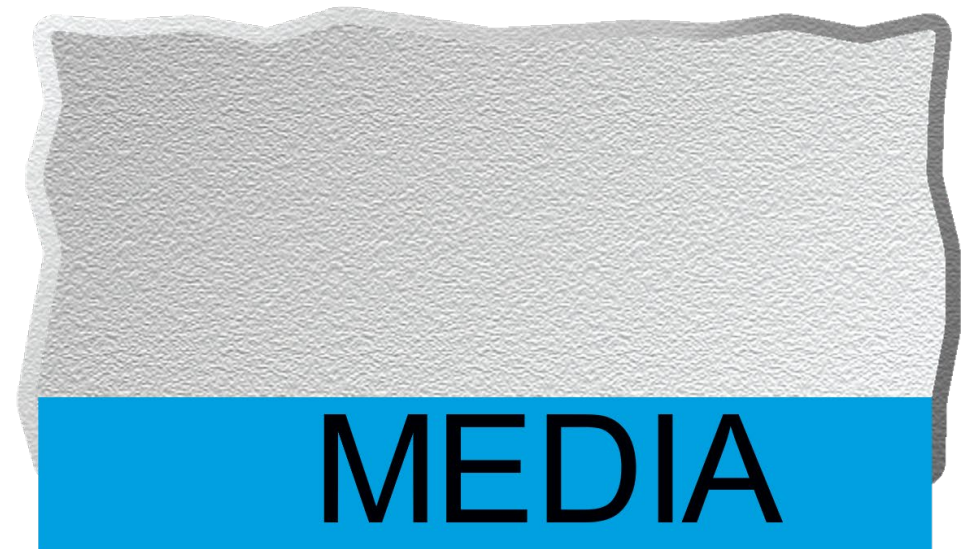


Phase Change



Radiation

# Drying – Why Use Different Drying

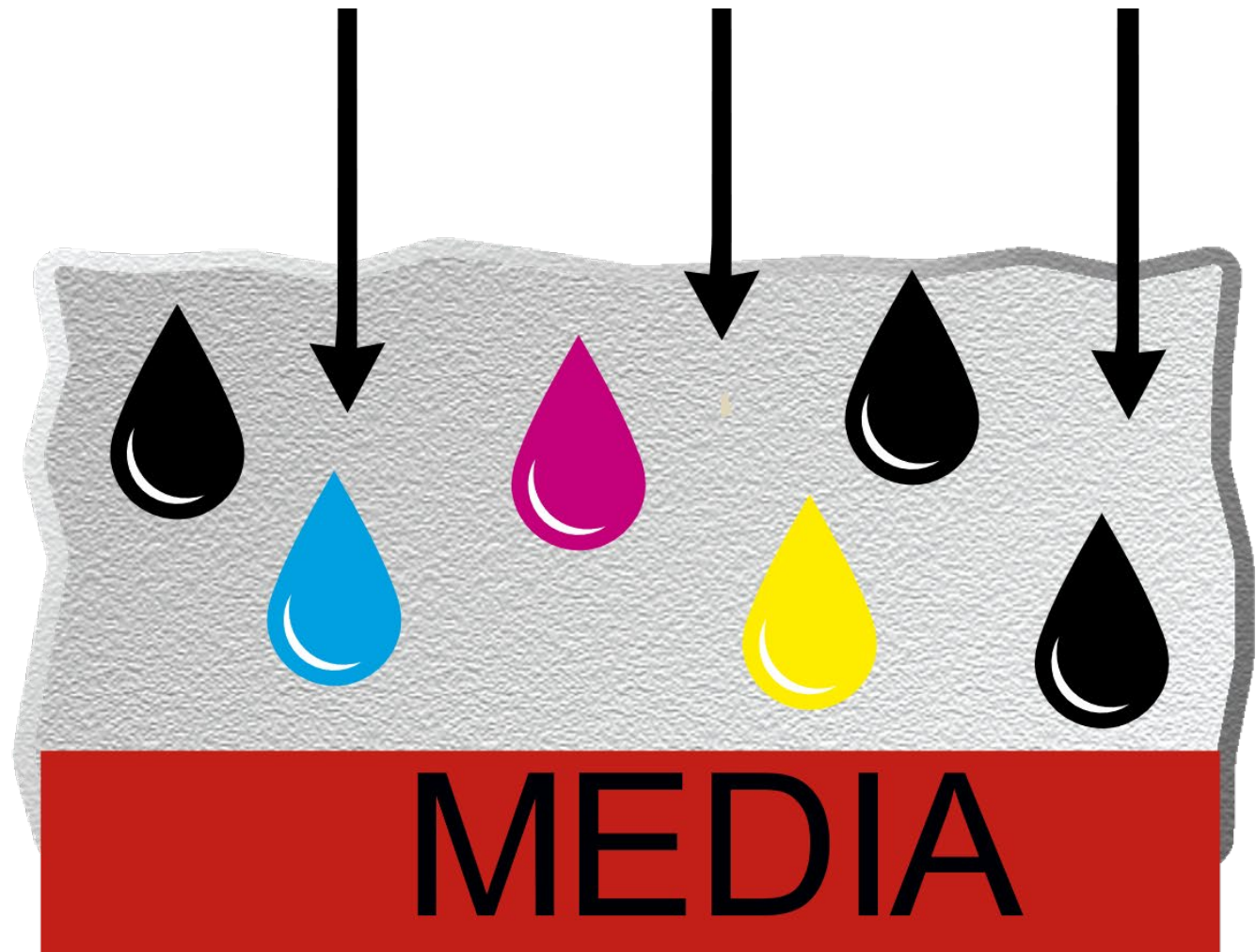


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# Drying

Absorption



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# Drying–Absorption

Pros	Cons
Simple process	Slow
No energy needed	Requires absorbent substrates
	Coverage limitations
	Accumulation of solvent in substrate

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# Drying

Evaporation



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# Drying –Evaporation

Pros	Cons
Thin ink film	High energy
Environmentally friendly (with aqueous inks)	Non-absorbent substrates difficult
Suitable for high speeds	Large & complex dryer for high speeds
	Heating of substrate
	Moisture management of substrate Heavy coverage = raining

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# Drying

## Phase Change



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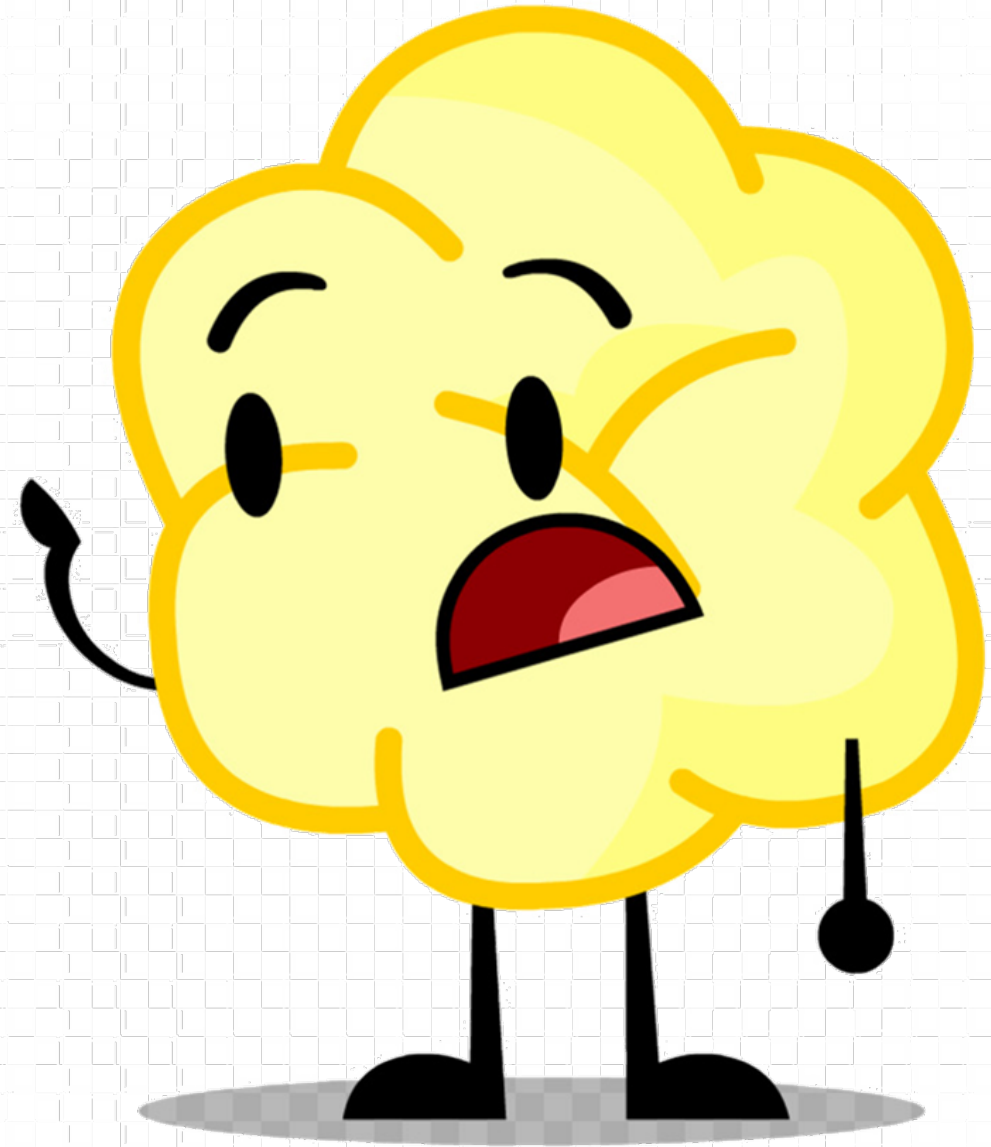
# Drying –Phase Change

Pros	Cons
Simple process	Adhesion issues
Low/no energy needed	Scratch resistance
Quick	Raised surface
Suitable for non-absorbent substrates	Re-liquification of inks

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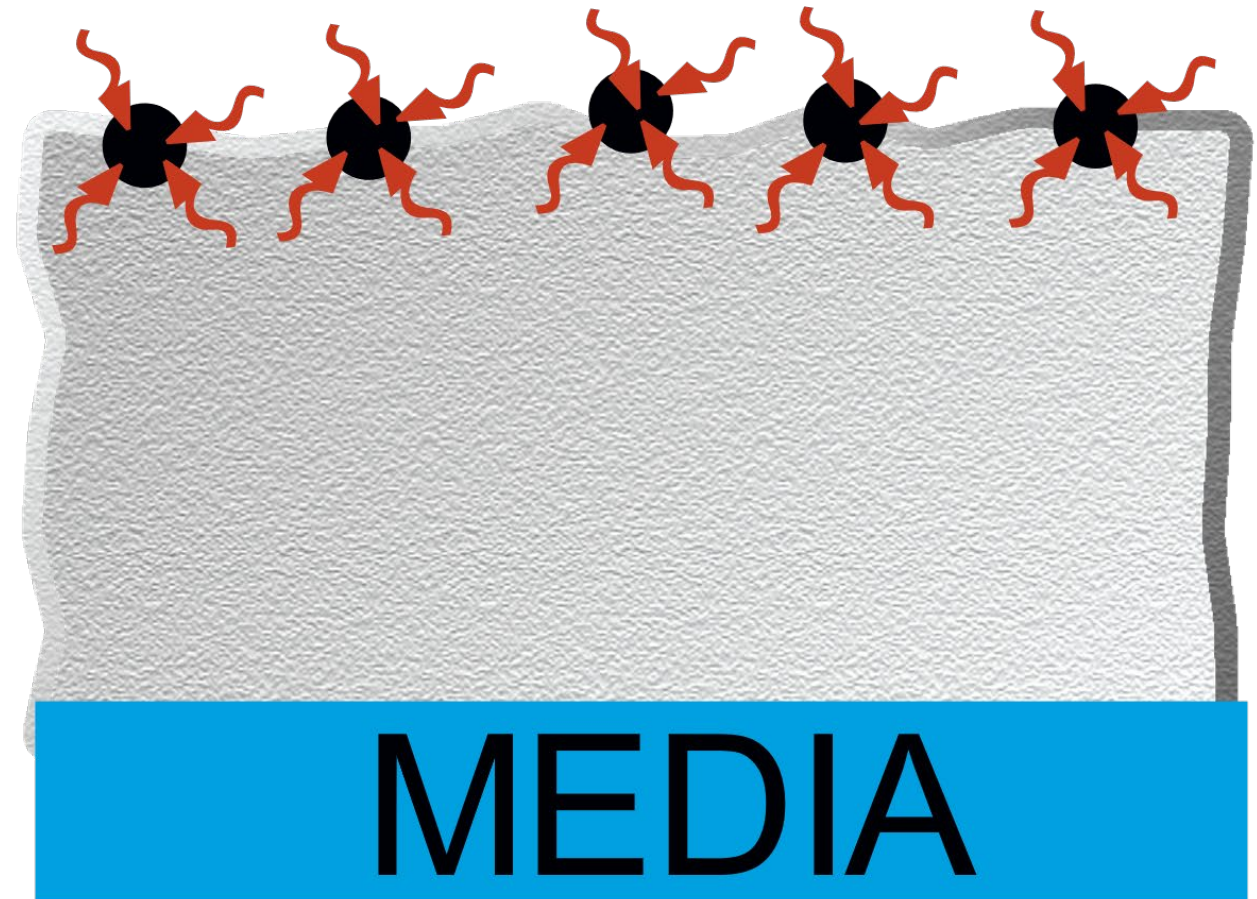
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***Fun Fact:*** The same heating concepts of inkjet are also used to make popcorn. Either in an air popper or in the microwave.



# Drying

## Radiation



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# Drying – Radiation

Pros	Cons
Substrate flexibility	Higher operational and equipment costs
Relatively compact drier	Food safety issues
Quick curing	Can have a raised surface
	Very porous substrates can limit hardening with UV

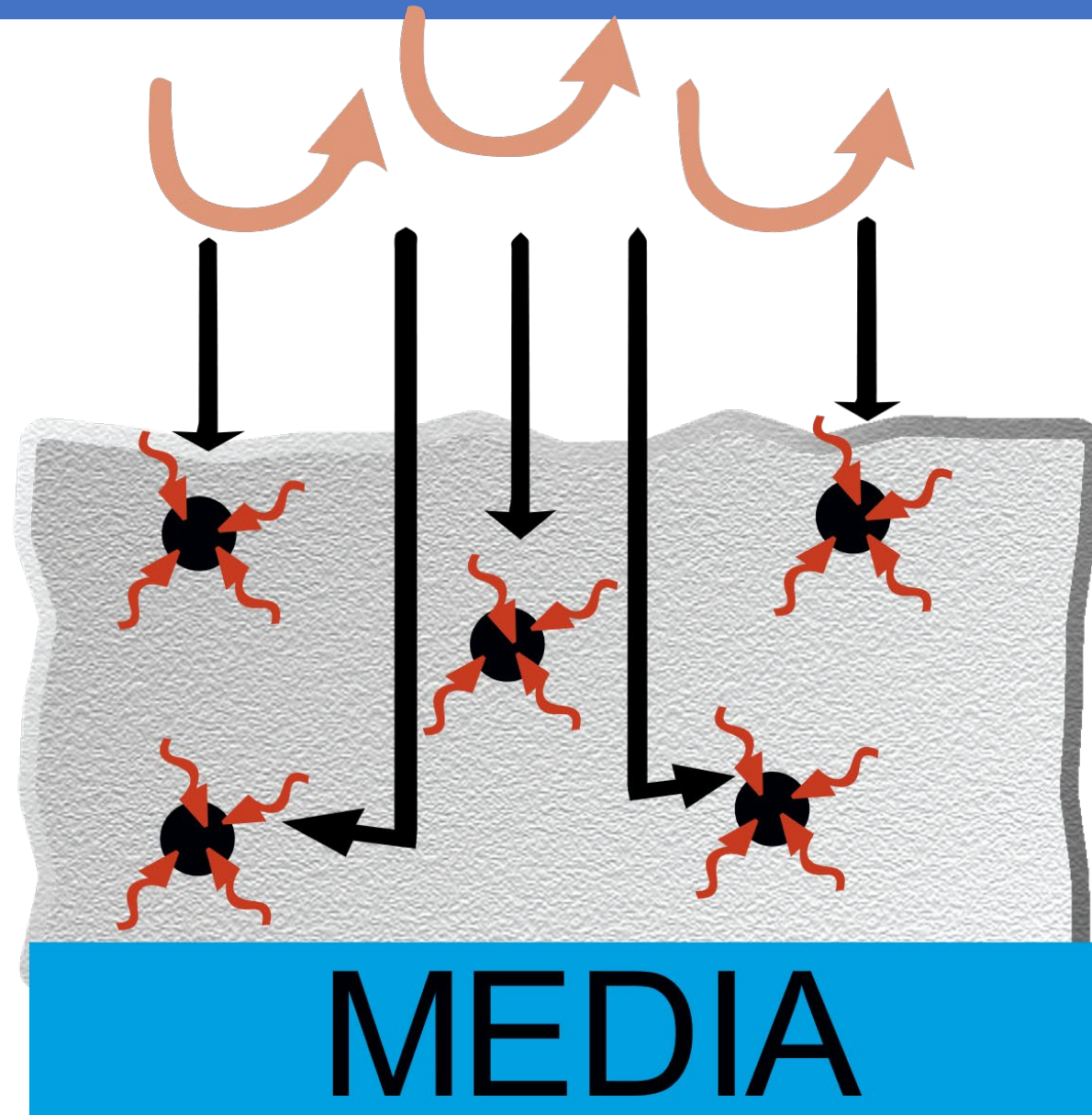
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# Drying

## Mixing Technologies



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#InnovationWeek

## 2021 Inkjet Innovation Week

- Don't miss Inkjet Insight Innovation Week
- June 14 – 18, 2021
- Innovation Segments
  - Web-Fed
  - Sheet-fed
  - Packaging and Label
  - Industrial and Bespoke Systems
  - Inkjet Workflow and Efficiency (software and hardware)

# Questions?

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Inkjet Insight provides valuable tools and resources to help companies objectively **evaluate** the potential of inkjet for their business, **optimize** their operations and **grow** their businesses using production inkjet.

Our Message to Printers, OEMs and the Industry at Large

Evaluate. Optimize. Grow.

Repeat



Need something explained?  
Let us know.

**For more information please contact:**

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**Thank you for your time and attention.**

We look forward to the opportunity to help you reach new customers through valuable technical and educational content and to grow your business through market analysis and expert media qualification support.