

# STREAM roadmap

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SIM USER FORUM - 06/06/2017

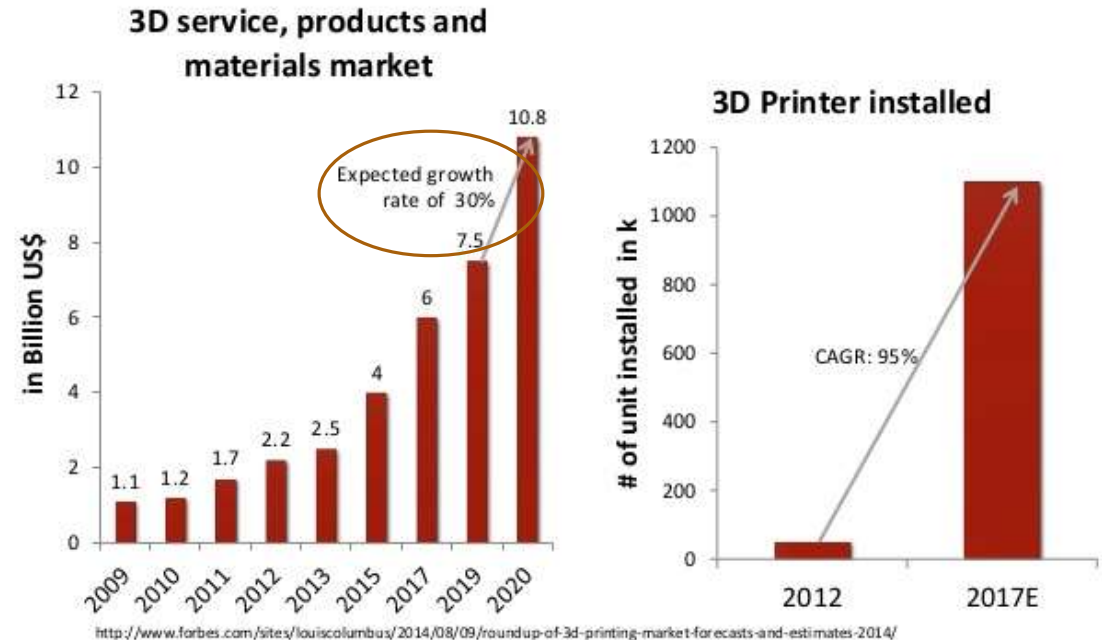
DR. IR. TOM CRAEGHS – RESEARCH MANAGER AM PROCESSES

MATERIALISE

# Additive Manufacturing trends: Flanders?

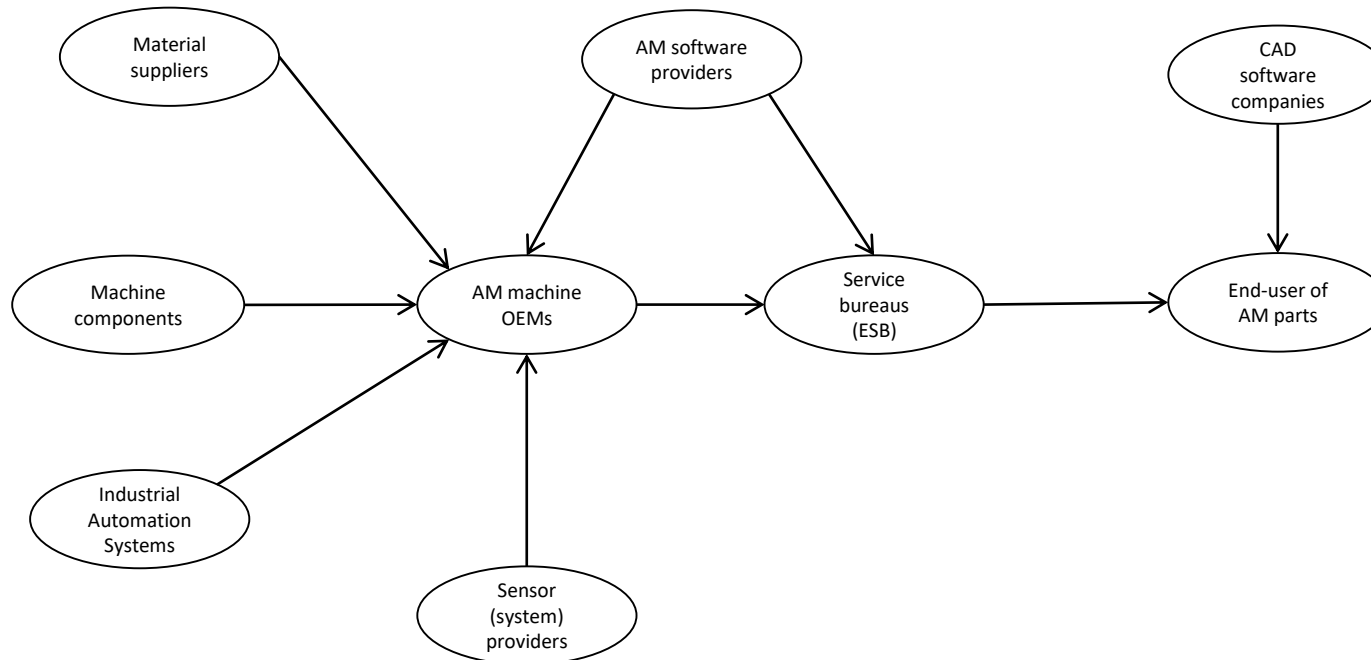
- ❖ Roadmaps/business analysts predict(ed) strong growth in AM over/in coming years.
- ❖ Flanders region traditionally very strong in AM, both industrial as well as academic:
  - ❖ E.g. Materialise, LayerWise, Melotte,...
- ❖ But... the game is changing
  - ❖ large players enter the 'arena' (GE, Siemens, Honeywell, ...)
  - ❖ Large international research budgets spent on AM
- ❖ To defend our industrial position (and to grow): make (the right) strategic choices in value chain of AM.

## Additive manufacturing market (III)

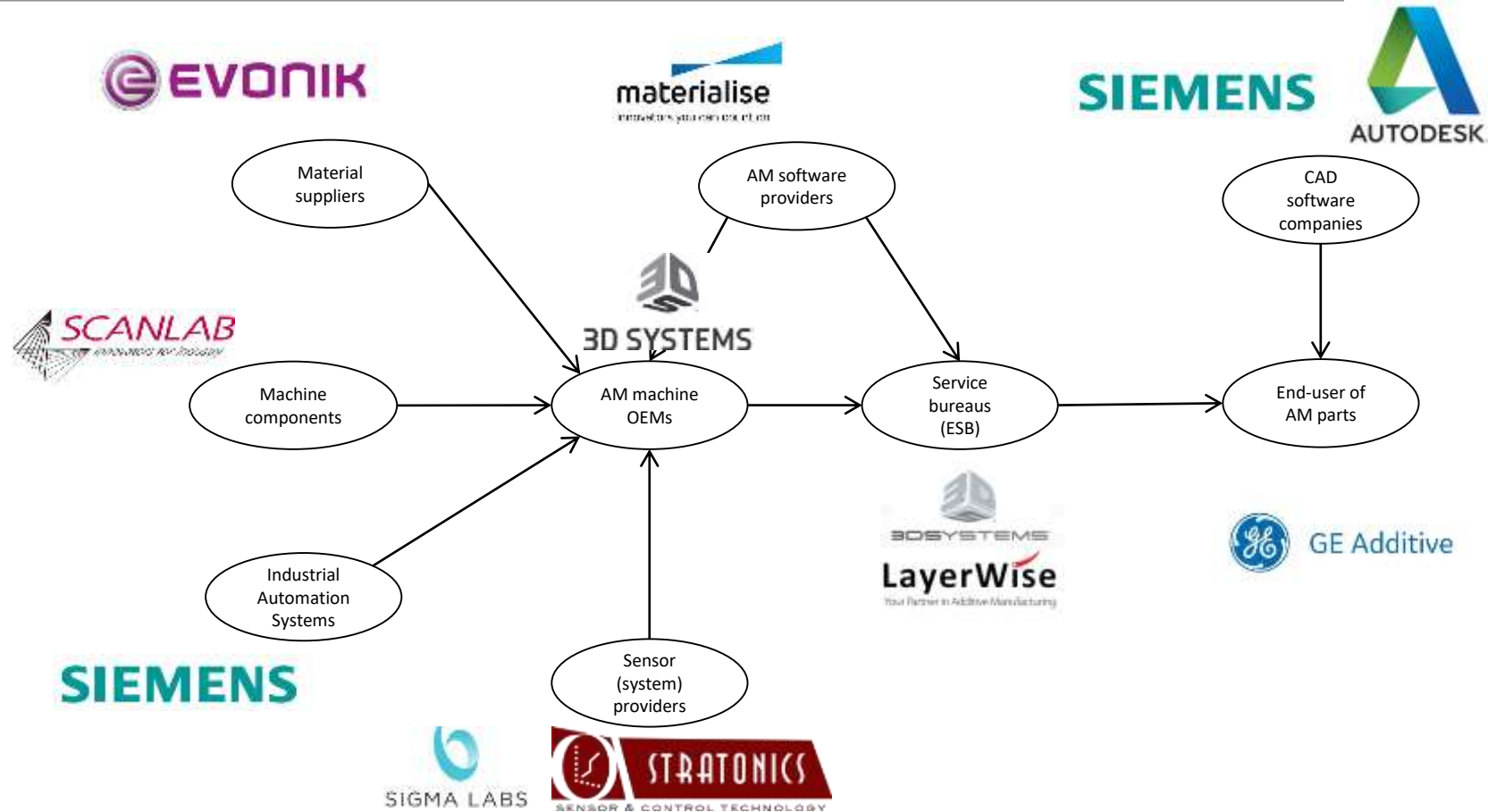


# Additive Manufacturing 'ecosystem' (for prototyping or small functional series)

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# Additive Manufacturing 'ecosystem' (for prototyping or small functional series)



# Industrial focus for STREAM

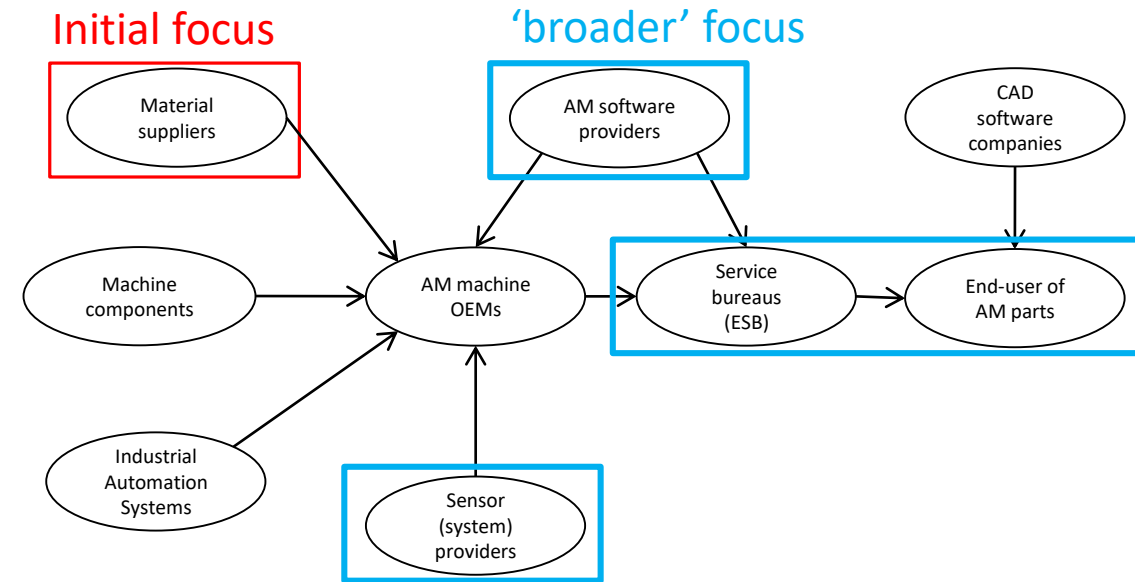
## ❖ Original focus of STREAM

### ❖ have an **AM material providers** in Flanders

- Projects on develop new materials, powders,... (Polyforce, WAVE)

## ❖ 'New' industrial BHAGs

- In 2022, **5%** of all AM parts are produced in Flanders
  - Focus on challenging applications
- Flemish companies (still) lead in **software tools for AM**
  - (e.g. cooperation integration of Materialise in Siemens software suite)
- End-users of AM



# Research focus for STREAM

## ❖ Original

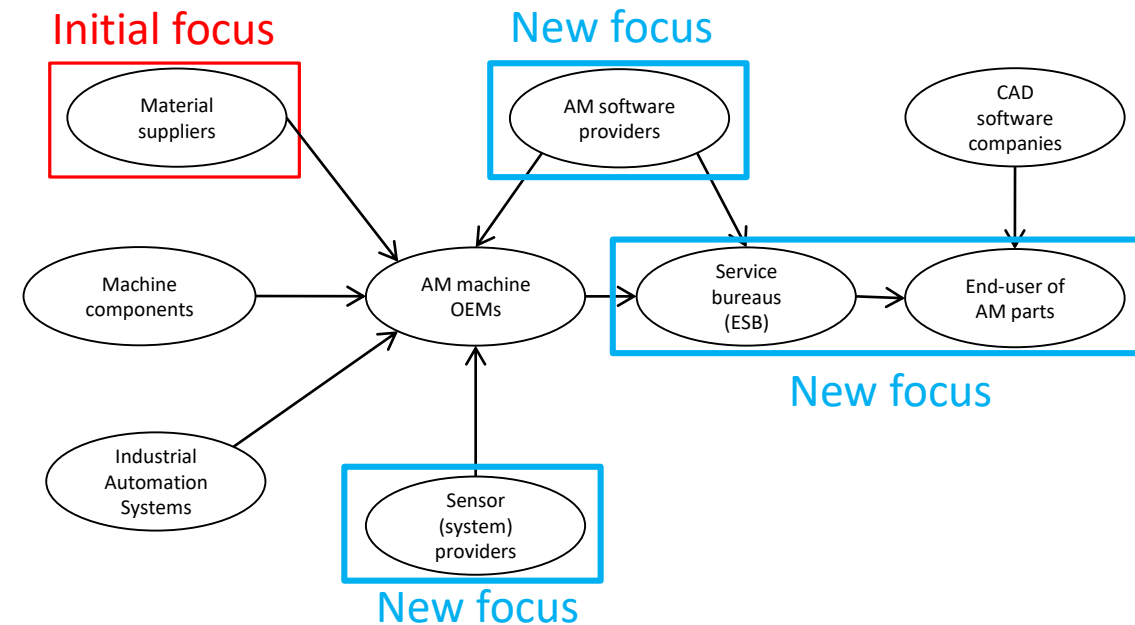
- ❖ develop **new** materials for AM
- ❖ Understanding of the raw material for AM, processability

## ❖ Adapted focus

- ❖ material-process **interaction**: during AM a material is born
- ❖ Work more with existing materials, but improve understanding.

## ❖ New research focus

- Study of the physics of AM processes → software
- Material characterisation of AM → improved materials
  - E.g. Using Computed Tomography for deeper understanding of the material
- Reduction **qualification** time for AM processes and parts
- (online) control of processes
- ...



# STREAM is open for discussing with you...

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## ❖ Industrial partners

- ❖ As end-users: wanting to develop an application using Additive Manufacturing (~VIGO - ASTREAMAFO).
- ❖ As 'service providers': using AM to serve parts to others.
- ❖ Other offering in the AM 'ecosystem': e.g. offering thermal camera's for improved process control
- ❖ ...

## ❖ Research partners

- ❖ material characterisation
- ❖ process control
- ❖ Empirical research on physics
- ❖ ...

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