BIG DATA IN 3D PRINTING

A BRIEF INTRODUCTION

3D PRINTING: THE DATA

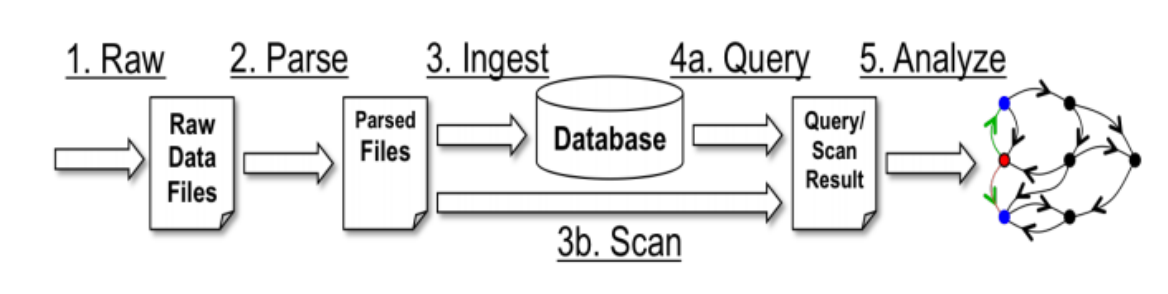
- 3D printing is growing really fast
- Spending to increase from $1.6 billion to $14 billion in 2018
- CAGR last 3 years was 33.8%

AN INTERDEPENDENT RELATIONSHIP

- DATA VISUALIZATION
- MANUFACTURING AND QUALITY ASSURANCE
- DATA STORAGE PRINTING

DATA VISUALIZATION: LUMINOCITY

MIT Researchers use 3D printing, Big Data, IOT to create enhanced visuals of campus



TWEETS BY TOPIC

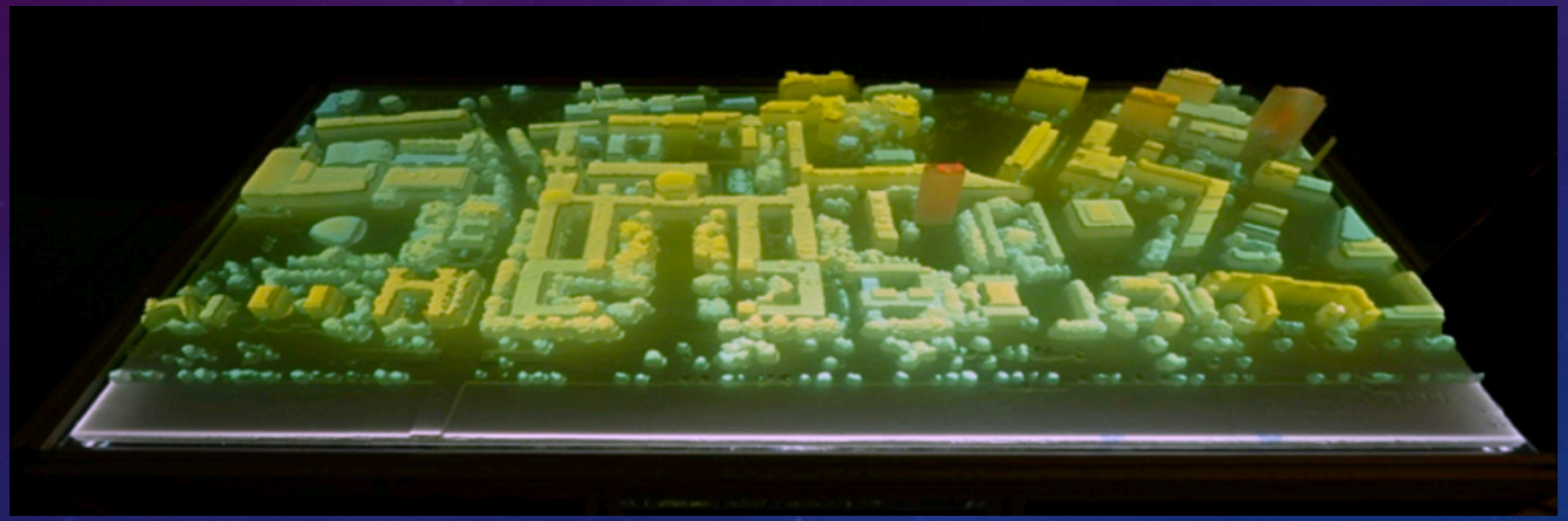
500 million tweets from Decahose

Understand real time movements

Gain patterns from topic clustering and key-word searches

FUTURE USES

- Scale up model to entire cities and alleviate traffic hotspots in urban planning

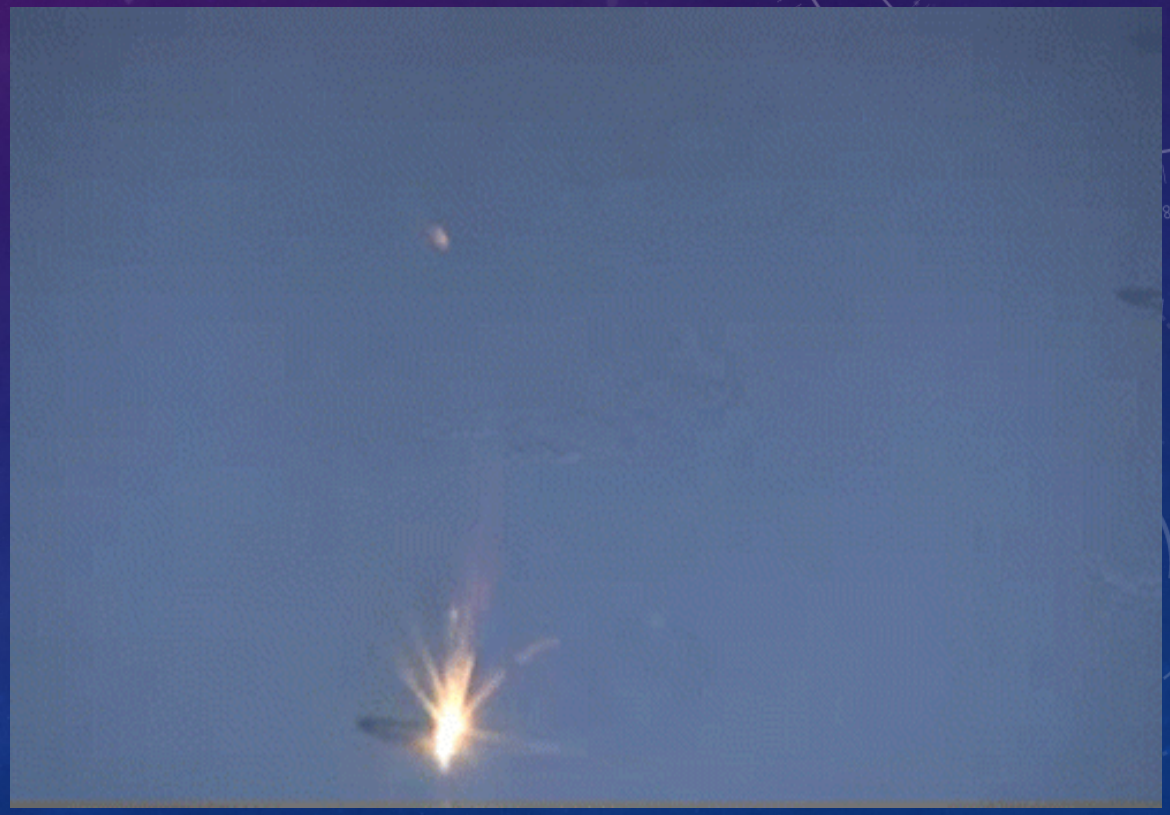


- Design smart cities with emission information from IOT sensors

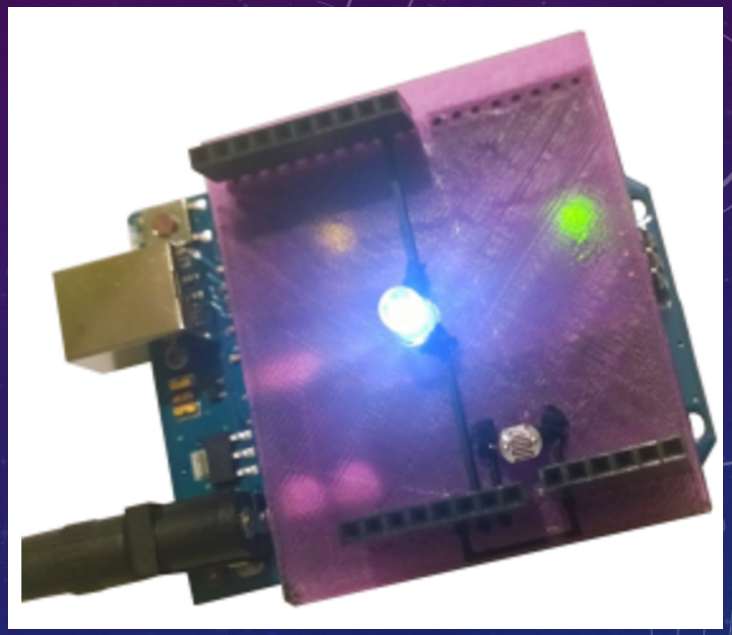
MANUFACTURING: GE AVIATION

- Complex parts require a lot of data
- Alignment error of even fraction of mm is dangerous

- *Big data will actively collect and analyze data to spot trouble*
- Data stored for back testing by engineers
- “in-process” inspection can increase production speed 25%



DATA STORAGE OF THE FUTURE



- 2.5 quintillion bytes of data everyday

Functionalize F-Electric: an electrically conductive filament

Carbomorph: Conductive material to build custom electronic designs

- Future lies in printing cheap and efficient Data Storage systems

QUESTIONS? THOUGHTS? IDEAS?