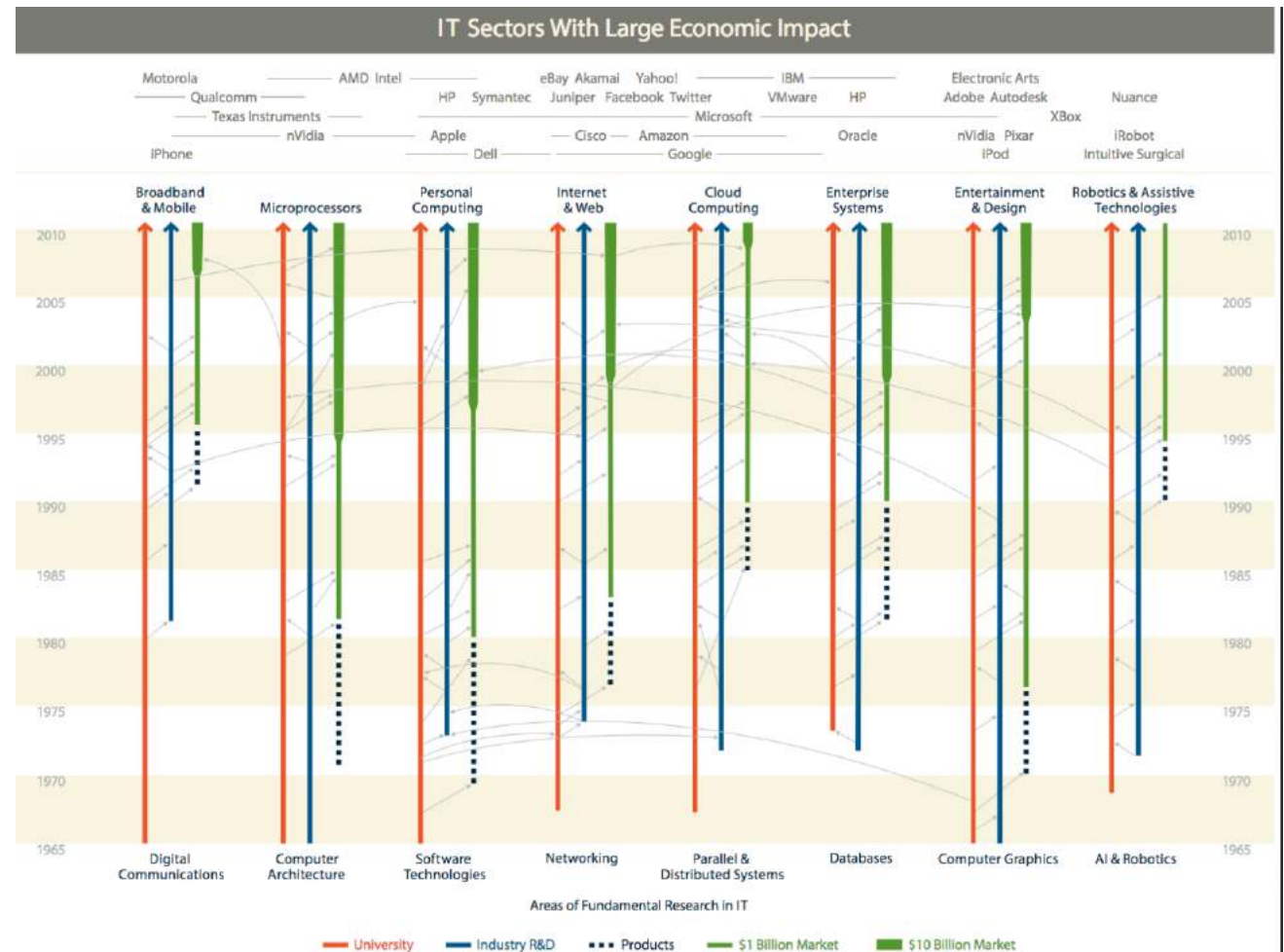
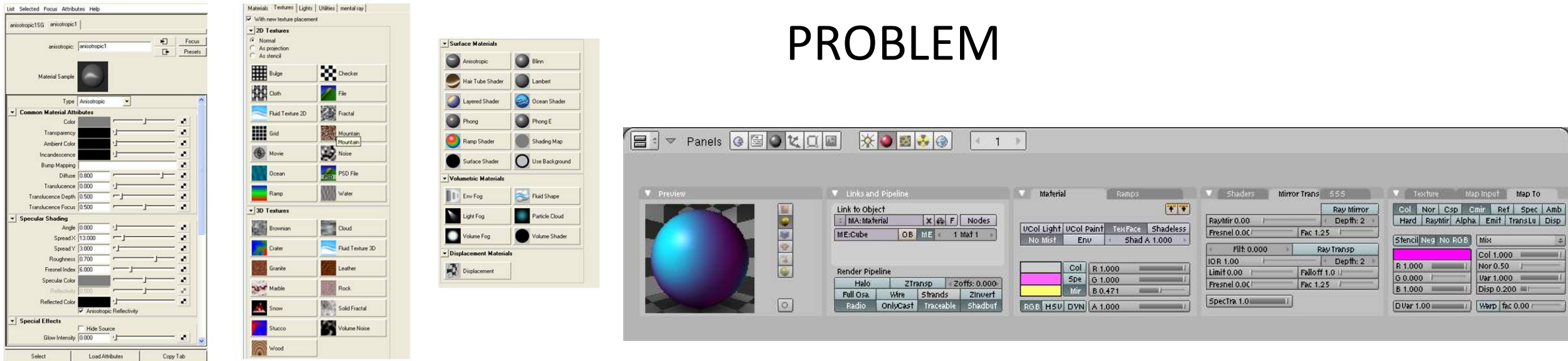


# Authoring Content: Graphics/Visualization/Haptics/Audio/Object

- Continuing Tire Track
- Problems/Opportunities
- Applications
- Technical Issues



# PROBLEM



Successful systems for expert users



May require lots and lots of users



# OPPORTUNITIES

Everyone has access to data, compute power and a variety of displays

Everyone has problems that could be attacked in part by authoring content

Media:

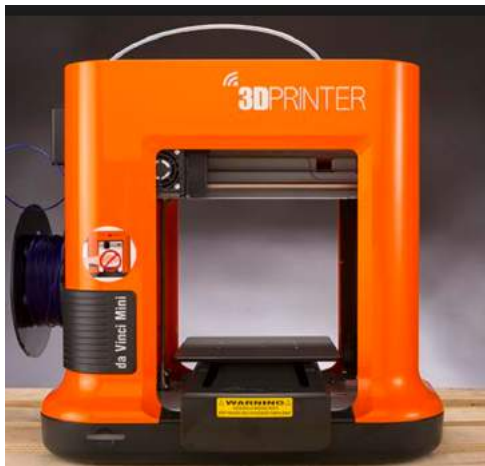
Interactive advanced displays (AR/VR)

Linear (animation/video)

Data/Information interactive

3D Fabrication

Haptic/Audio generation



# Applications – Why do more people need to be able to create content?

- Education – development of easily shared resources (animations, VR/AR etc) incorporating growing image/video/model libraries, e.g. at LOC
- Training and workforce development (lifelong learning/skills improvement) – rapid creation of materials to support newly created jobs
- Public engagement in government (accessing, sharing information, decision making) at all levels
- Small scale design/production for wider range of industries

Collection  
Simulation  
Acquisition  
(including imaging)

Data

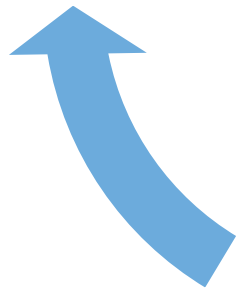


Analysis

Machine Learning  
HPC  
Statistics

For

Scholarship  
Decision Making



Public

Communication



Formal Education  
Public Information

## Technical research Issues

### Human-Computer interfaces

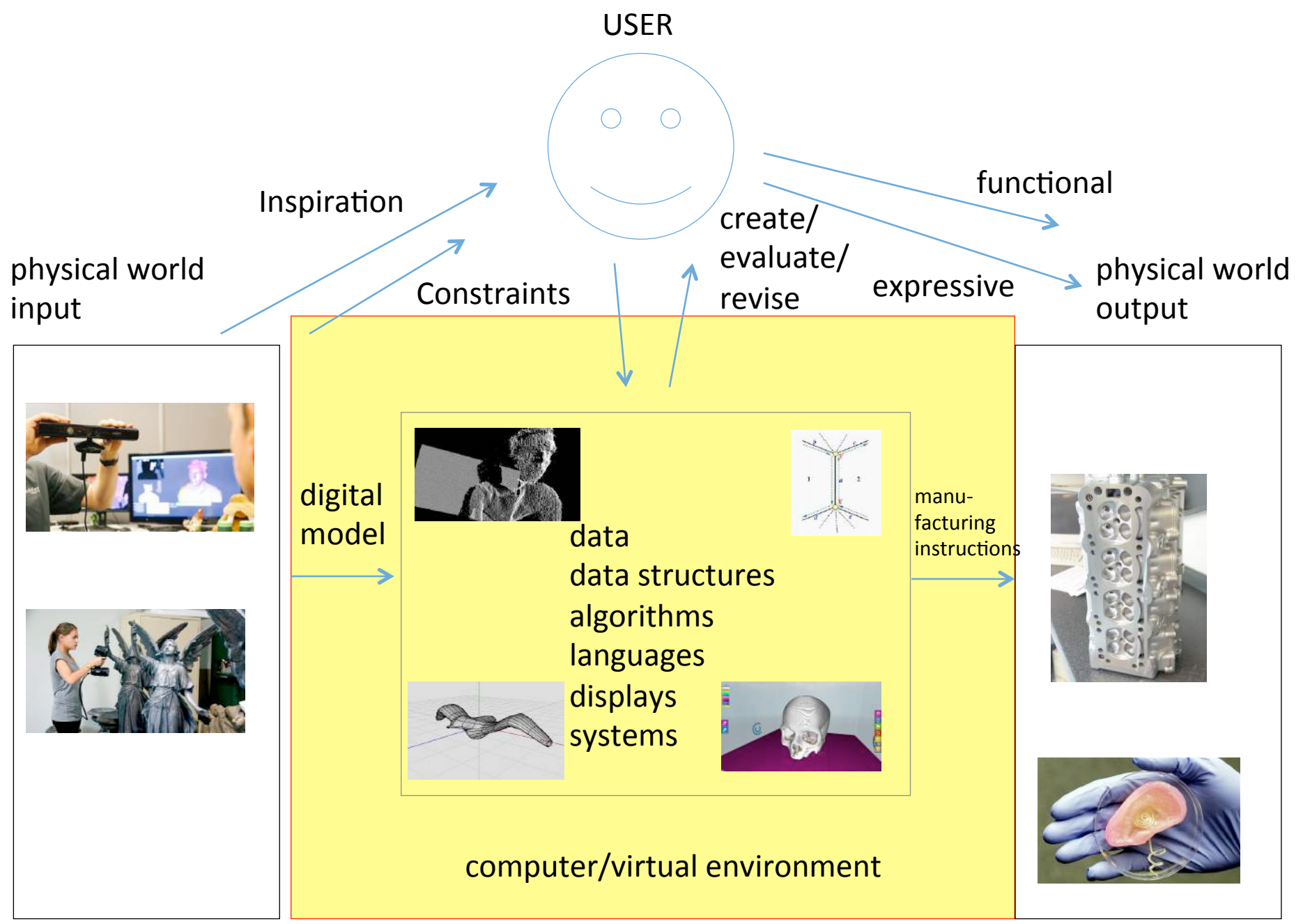
- But can't just but new wrappings on existing structures/algorithms

### Methods for discovery

- Interpretable machine learning (input and output)
- Designing systems instrumented to acquire data  
(e.g. generalized computational photography)

### Real time generalized processing/rendering

- haptics/sound/fabrication in addition to visual
- requires new representations, new algorithms



# Proposal

- Graphics/Visualization/Haptics/Audio/Object as “first class” task force issue
- Task force could be application oriented (education, training, government decision making ...)
- Meetings to define technical goals organized by application or media