

mat 

a world of materials

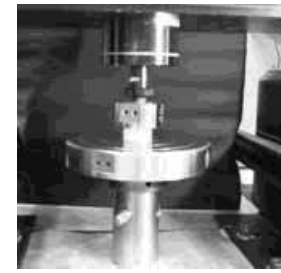
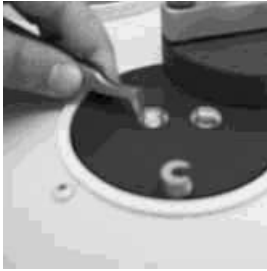
many products



reality

each with its own reality

# material data



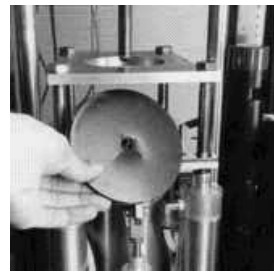
compressive

stress relaxation

tensile



viscosity



fatigue



conductivity

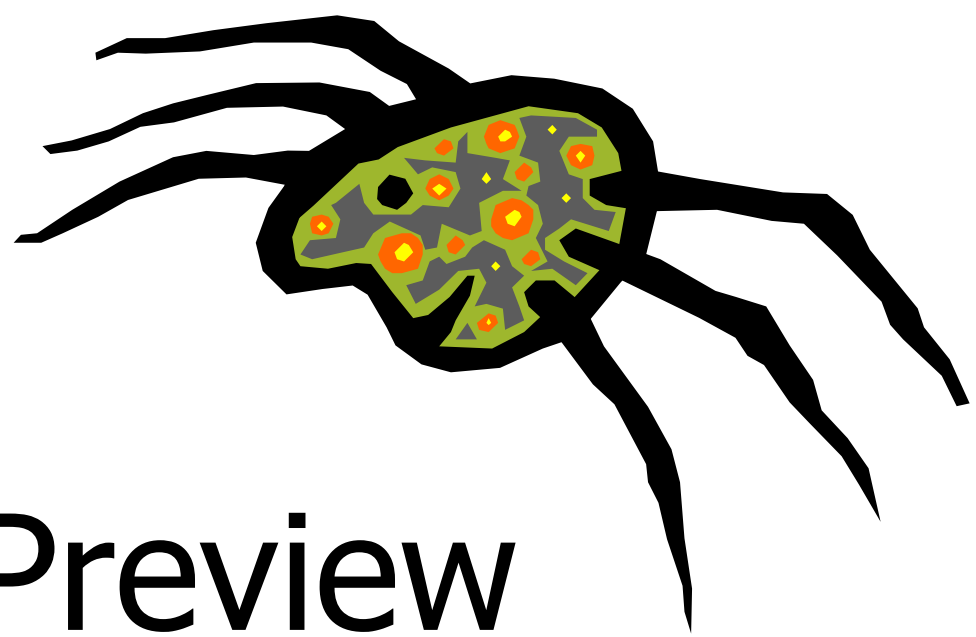


expansion

properties that describe reality

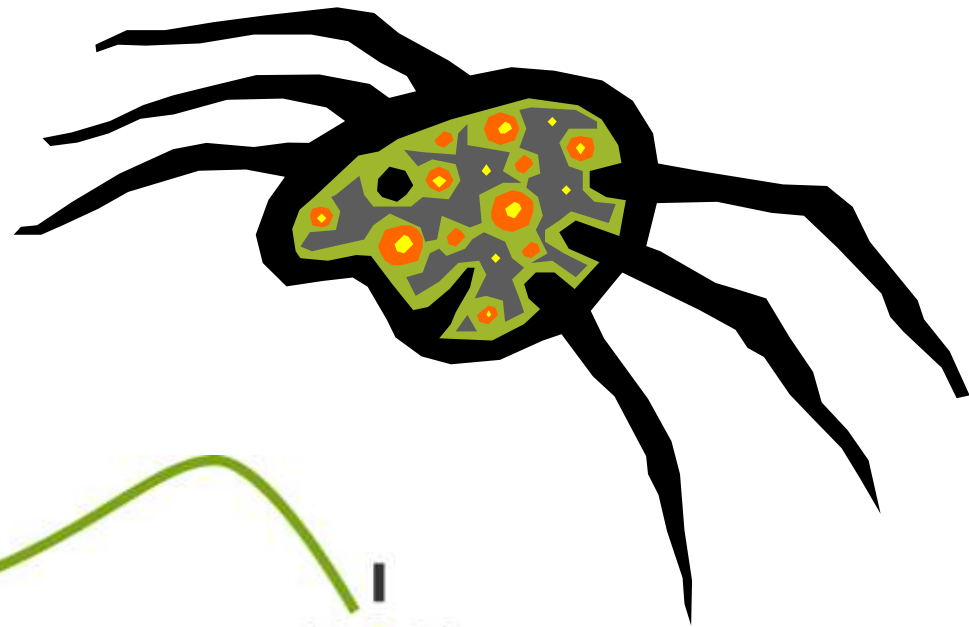


web services for material data



# Sneak Preview

sneak peek.....



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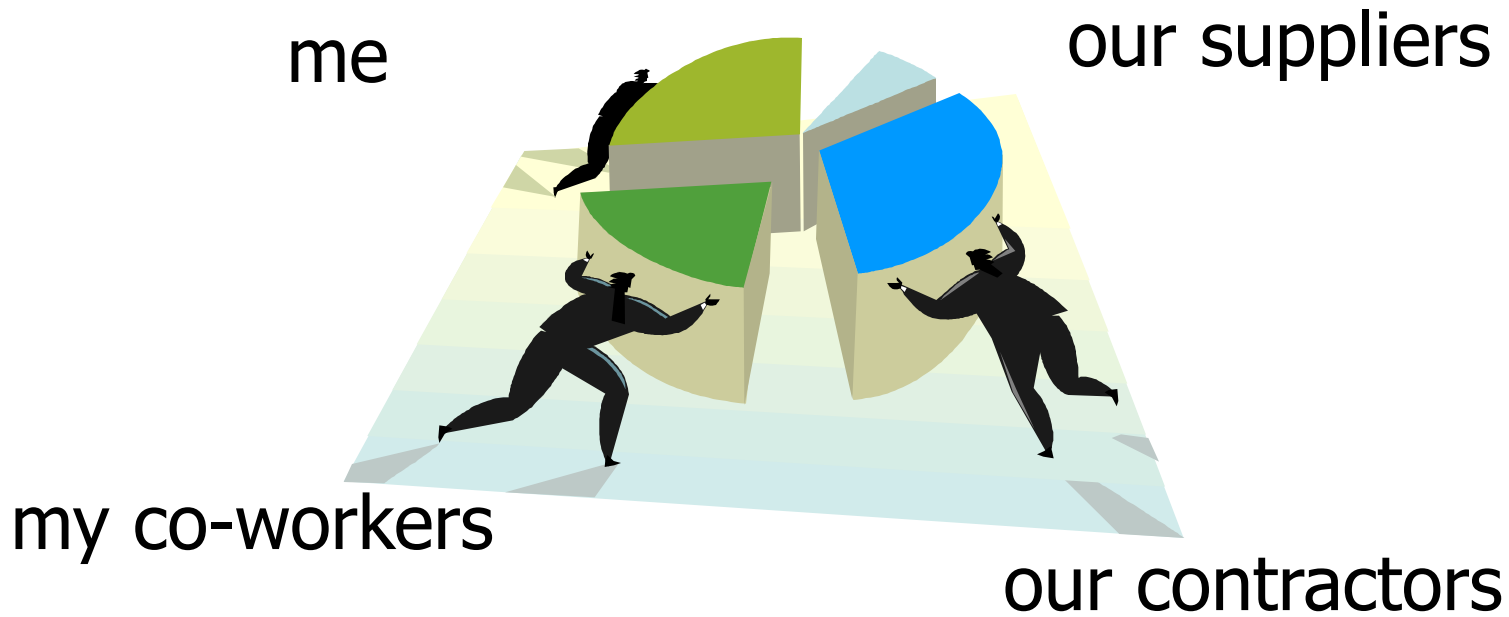
a knowledge web

# Knowledge web?

- Place where stakeholders share data

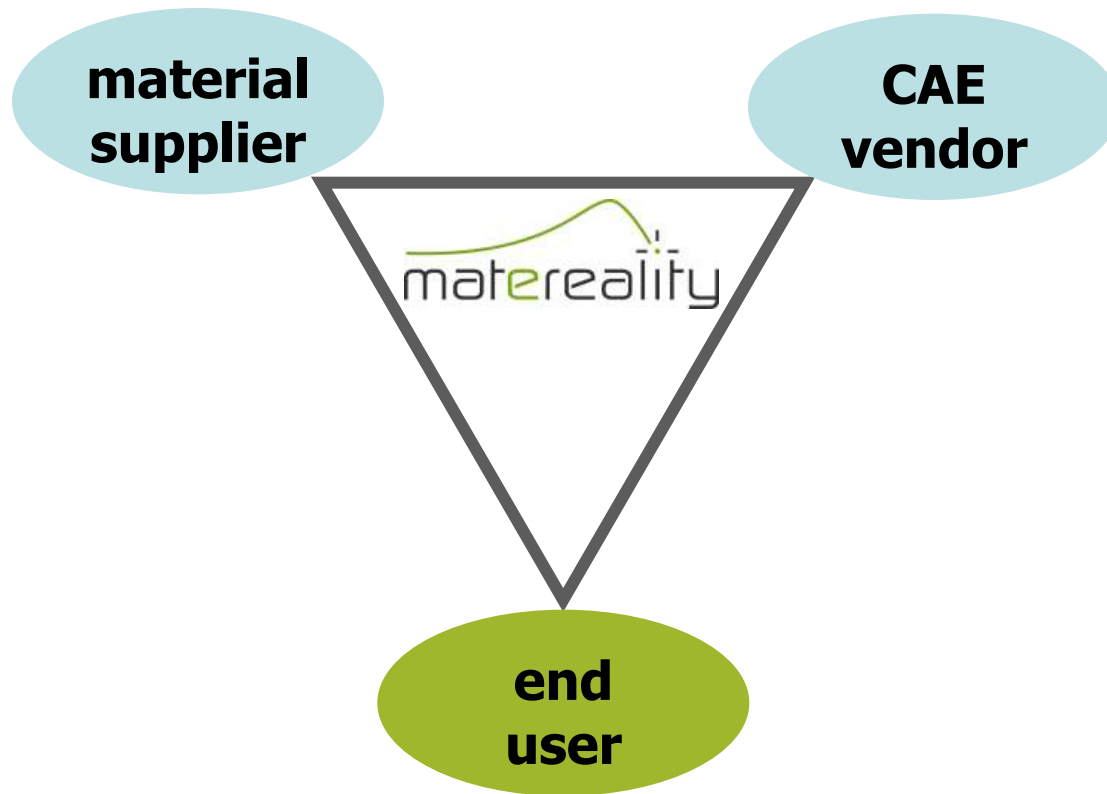


# Who are the stakeholders?

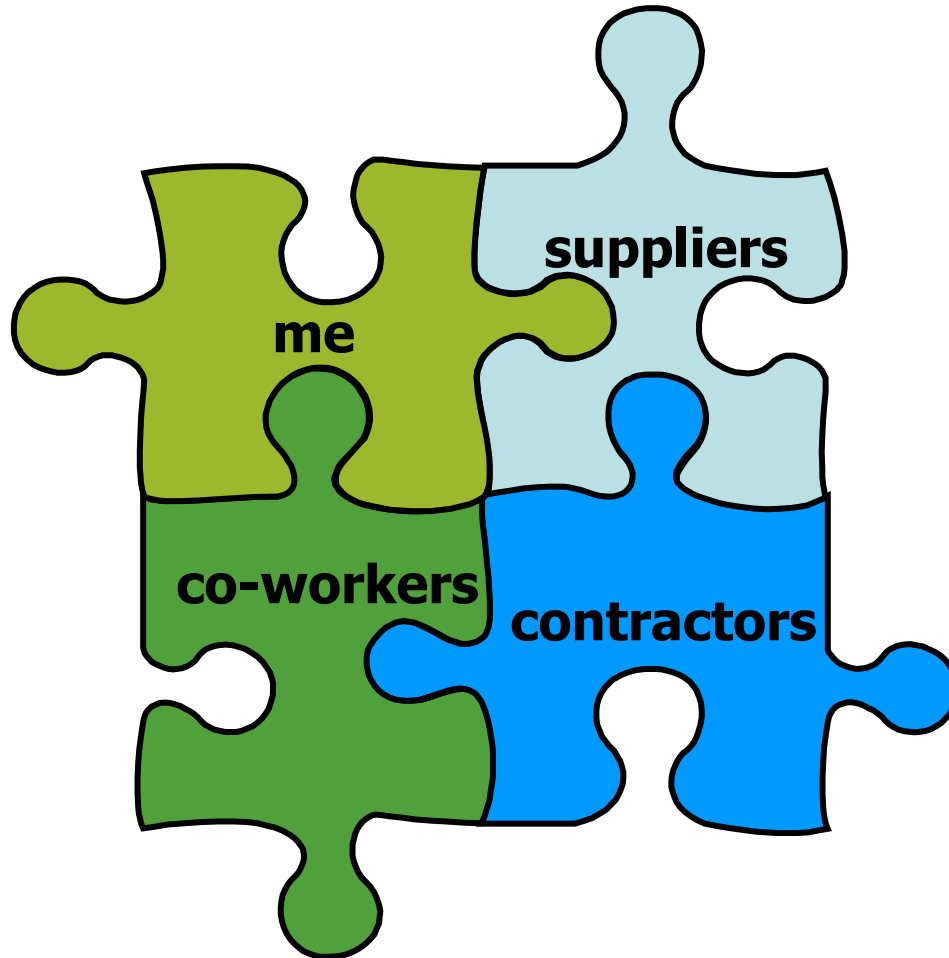




# Stakeholders: partners in development



# Webs are collaborative,



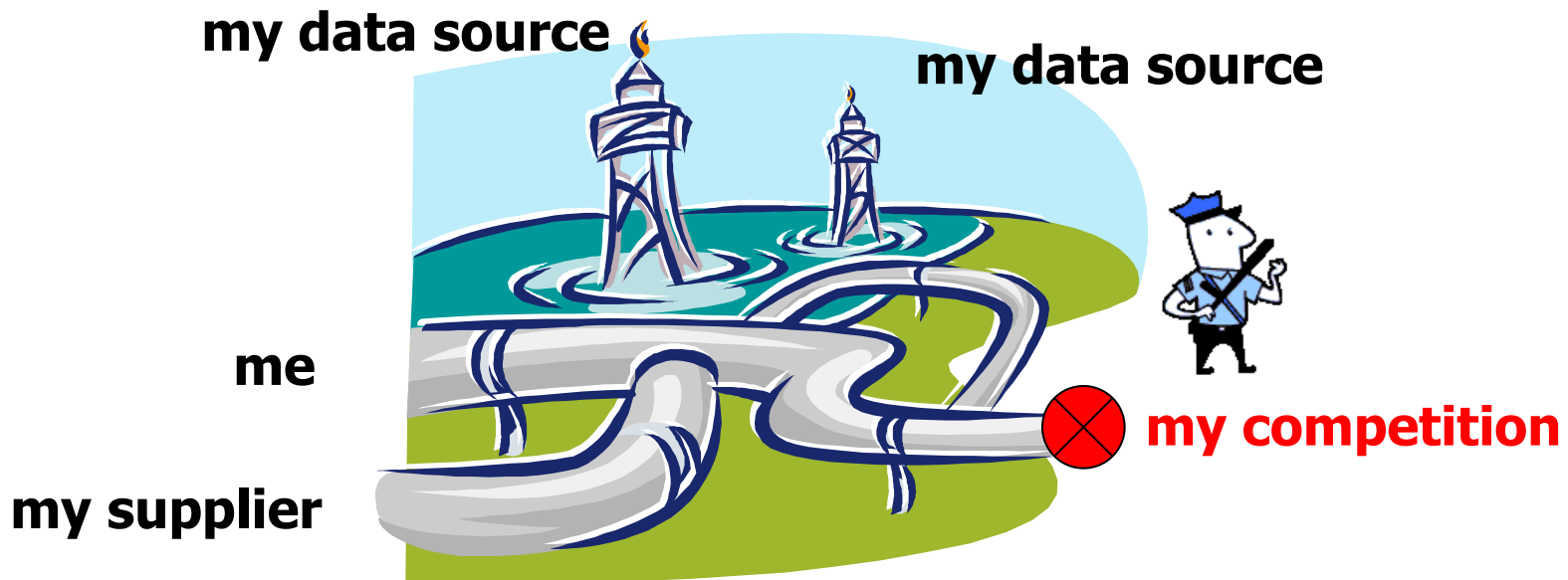
secure,



**knowledge**

# and flexible!

- Webs make efficient data pipelines

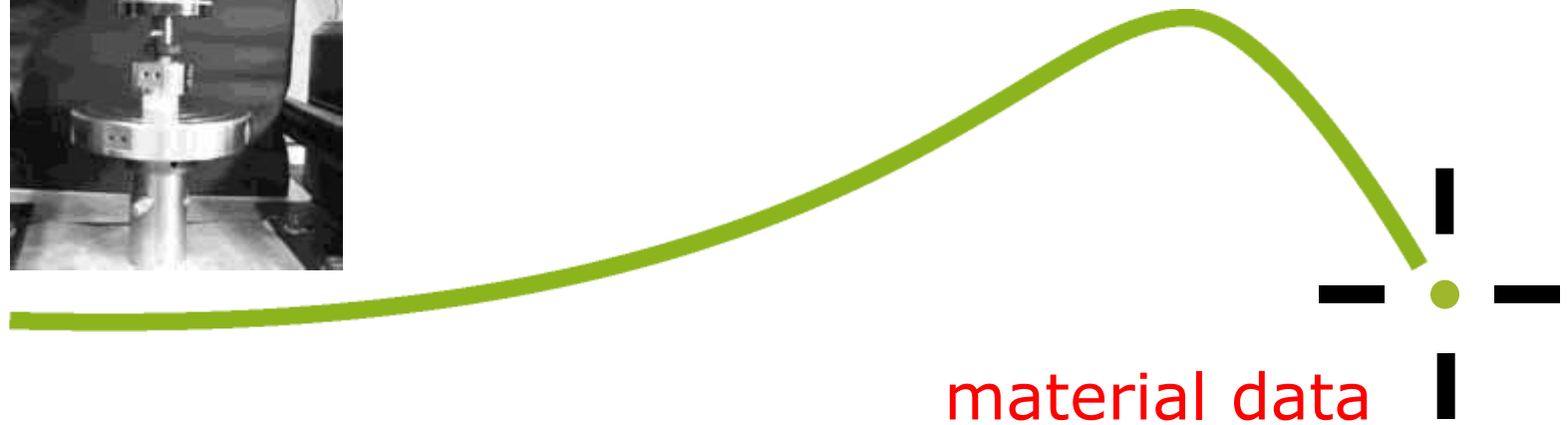
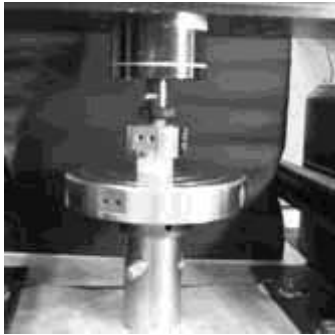




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creates **secure**, flexible networks

# What's inside?



properties for your reality

# Mechanical Data



compressive

tensile

fatigue



impact

friction

creep

hyperelastic

# Thermal Data

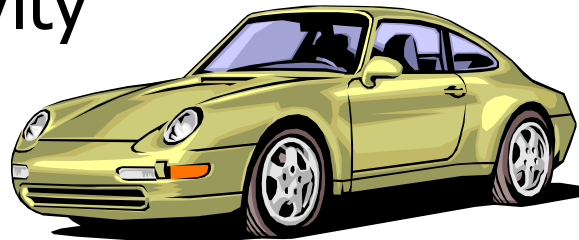


stress relaxation



thermal expansion

thermal diffusivity



thermal conductivity

PVT

heat capacity



# Flow Data



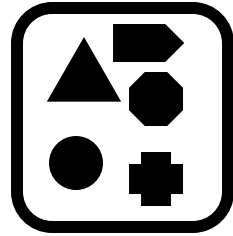
shear viscosity



elongational viscosity

die-swell

visco-elasticity



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accommodates data diversity

# What about content?



What makes the data real for me?

# Pertinence

- Properties depend on application
  - Data at conditions comparable with your reality
  - Self consistent properties
  - Complete material property collections
  - Properly identified

**valid** data

# Objectivity

- Real data from qualified data providers
  - Material suppliers
  - Internal labs
  - Certified data sources like DatapointLabs

data **fidelity**



# Traceability

- Data source
  - Where tested
  - Who tested
  - When tested
- Raw data
- Test results
  - Models trace back to raw data

know **where** its coming from



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the authoritative source

# A web service??

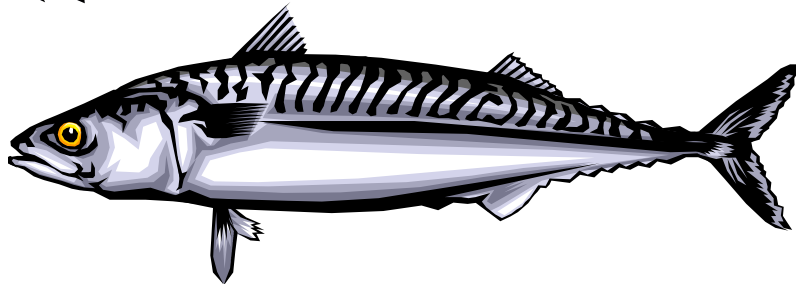
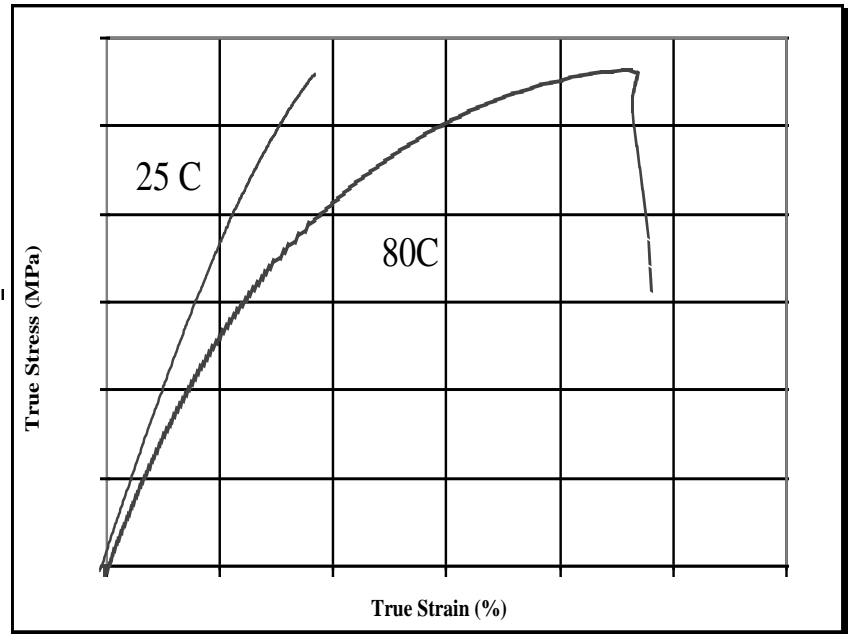


How would you like your data?



# Unformatted?

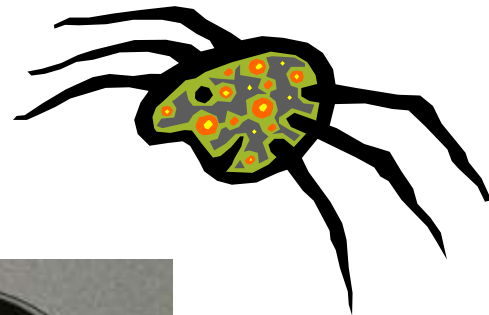
- You prepare it
- You judge quality



# or formatted!

- plots
- tables
- CAE model coefficients
- electronic data output
- multiple unit systems

- Validated
- Ready to use





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serves **ready-to-use** data

# Benefits

- Increased design confidence
- Consistent use of data across design platform
- Reduced time to market
- Traceable material data
- Diverse property types
- Single license to enterprise solutions

Beta Release: Nov 2002

[www.matereality.com](http://www.matereality.com)

Material properties for a  
collaborative world



# material (ma·te·ri·al)

- (1) : the elements, constituents, or substances of which something is composed or can be made
- (2) : matter that has qualities which give it individuality and by which it may be categorized

**Merriam Webster Collegiate Dictionary**

-Date: 1556



# reality (re·al·i·ty)

**1: the quality or state of being real**

2 a (1): a real event, entity, or state of affairs

2 a (2): the totality of real things and events

2 b : something that is neither derivative nor dependent but exists necessarily

**Merriam Webster Collegiate Dictionary**

-Date: 1550



# matereality (ma·te·re·al·i·ty)

1: collections of material properties that realistically represent product behavior

2: material properties used in virtual product development

-Date: 2002

