### **ATYPON**

## WebinarSeries

Creating new revenue streams from existing content

Repackaging and selling reference manuals, guidelines, and standards

**Jacob Wilcock** 

June 12, 2019





# Content as a Service (CaaS)

### Today, we'll walk through two examples:

- 1. Living Documents
- 2. Chunked/repackaged content

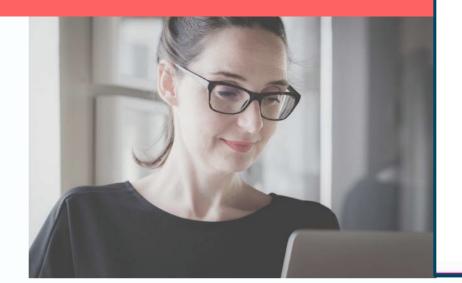


# Example #1 Living Documents

How AIAA gets critical updates to reference documents into the hands of the practitioners who need them most



Claire, an aerospace engineer, searches
AIAA for the latest standard on
electromagnetic compatibility requirements



ANSI/AIAA S-121A-2017

Standard

Electromagnetic Compatibility Requirements for Space Equipment and Systems





Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems (AIAA S-121A-2017)

She discovers that the 2009 edition she subscribes to has been superseded





# Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems (AIAA S-121A-2017)

AIAA 2017 (FINAL) V

**COMPARE ALL** 

#### 6.9.2 Electrically-Initiated Explosive Devices (EED)

Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500  $\Omega$  resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent electrostatic discharge and attraction of ions electrostatic discharge arising from vehicle charge and notices and notices an icon

#### 6.10.3 Hazards of Electromagnetic Radiation to organice (PERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes onboard emitters and the external EME (see MIL-STD-464C, Section 5.3). Compliance shall be verified by test, analysis, inspection, or a combination thereof. Inspection alone is inadequate.

#### 6.12 Electrical Bonding

Electrical bonding measures shall be implemented for management of electrical current paths and control of voltage potentials to ensure required space system performance and to protect both personnel and platform. Bonding provisions shall be compatible with other requirements imposed on the space system for corrosion control. Compliance shall be verified by test, analysis, inspection, or a combination thereof, for the particular bonding provision. Compliance of equipment installation bonds shall be verified by test.





GG Cited By





Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems

#### **Related Articles:**

Conjugate Analyses of Ablation in Rocket Nozzles

Peter G. Cross and Iain D. Boyd

Can We Estimate Air Density of the Thermosphere with CubeSats?

Raphael F. Garcia, Zimo R. Sibbing and Adriaen Van Camp

Smart Projectile Parameter Estimation Using Meta-Optimization

Matthew Gross and Mark Costello





圆

**Details** 

### Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems (AIAA S-121A-2017)

#### AIAA 20

#### 6.9.2 Electr

Electricallypersonnel h resistor to t

#### 6.9.3 Space

Spacecraft hazards fro electrostati electrostati

#### 6.10.3 Haza

Ordnance s EME (see N Inspection

#### 6.12 Electri

Electrical b to ensure re compatible analysis, in: shall be ver.....

#### AIAA 2017 (FINAL)

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### **AIAA 2015**

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

#### **AIAA 2009**

N/A

#### **COMPARE ALL**

tic discharge caused by

pac

; an

### Clicking it reveals the previous version of that section...

nt contamination due to rence caused by

ters and the external bination thereof.

ol of voltage potentials isions shall be ill be verified by test, nent installation bonds

#### Stangarg: Electromagnetic **Compatibility Requirements for** Space Equipment and Systems

MALAA

#### Related Articles:

Conjugate Analyses of Ablation in **Rocket Nozzles** 

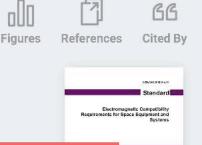
Peter G. Cross and Iain D. Boyd

Can We Estimate Air Density of the Thermosphere with CubeSats?

Raphael F. Garcia, Zimo R. Sibbing and Adriaen Van Camp

**Smart Projectile Parameter Estimation Using** Meta-Optimization

Matthew Gross and Mark Costello





#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### **AIAA 2015**

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

#### **AIAA 2009**

N/A

...and indicates exactly what wording was changed

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

**AIAA 2015** 

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

**AIAA 2009** 

N/A

Red, crossed-through type indicates text that has been deleted

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### **AIAA 2015**

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

Blue type indicates an addition made to the previous version

#### **AIAA 2009**

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

**AIAA 2015** 

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

**AIAA 2009** 

N/A

The words "electrostatic discharge" were added in the 2017 edition...

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD electrostatic discharge, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

**AIAA 2015** 

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

**AIAA 2009** 

N/A

...this entire sentence was new in 2017





### Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems (AIAA S-121A-2017)



A 'Compare All' button...



#### 6.9.2 Electrically-Initiated Explosive Devices (EE

Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500 Ω resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to electrostatic discharge and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes onboard emitters and the external EME (see MIL-STD-464C, Section 5.3). Compliance shall be verified by test, analysis, inspection, or a combination thereof. Inspection alone is inadequate.

#### 6.12 Electrical Bonding

Electrical bonding measures shall be implemented for management of electrical current paths and control of voltage potentials to ensure required space system performance and to protect both personnel and platform. Bonding provisions shall be compatible with other requirements imposed on the space system for corrosion control. Compliance shall be verified by test, analysis, inspection, or a combination thereof, for the particular bonding provision. Compliance of equipment installation bonds shall be verified by test.







**Figures** 

References

Cited By

Standard: Electromagnetic **Compatibility Requirements for** Space Equipment and Systems

#### Related Articles:

Conjugate Analyses of Ablation in **Rocket Nozzles** 

Peter G. Cross and Iain D. Boyd

Can We Estimate Air Density of the Thermosphere with CubeSats?

Raphael F. Garcia, Zimo R. Sibbing and Adriaen Van Camp

**Smart Projectile Parameter Estimation Using Meta-Optimization** 

Matthew Gross and Mark Costello

### ...reveals a multi-edition side-byside comparison





for

AI

6.9.2

6.9.3

6.10.

6.12

#### AIAA 2017 (FINAL)

#### 6.9.2 Electrically-Initiated Explosive Devices (EED)

Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500  $\Omega$  resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD electrostatic discharge and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or

#### **AIAA 2015**

#### 6.9.2 Electrically-Initiated Explosive **Devices (EED)**

Electro Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500 Ω resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes

#### **AIAA 2009**

#### 6.9.2 Electro-Explosive Devices (EED)

Electro explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500  $\Omega$  resistor to the EED (pin-to-pin and pin-to-case).

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes onboard emitters and the external EME (see MIL-STD-464A, Section 5.3). Compliance shall be verified by test, analysis, inspection, or a combination thereof. Inspection alone is inadequate.

#### 6.12 Electrical Bonding

Electrical bonding measures shall be implemented for management of electrical current paths and control of voltage potentials to ensure required space system performance and to protect both personnel and platform. Bonding provisions shall be compatible with other



tic ts for ems









#### Sta for

### AL

### 6.9.2

6.9.3

6.10.

6.12

# current edition of the standard

#### AIAA 2017 (FINAL)

#### 6.9.2 Electrically-Initiated Explosive Devices (EED)

Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500  $\Omega$  resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD electrostatic discharge and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or

#### **AIAA 2015**

#### 6.9.2 Electro Electrically-Initiated Explosive Devices (EED)

Electro Electrically-Initiated explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500 Ω resistor to the EED (pin-to-pin and pin-to-case).

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to ESD and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes

#### **AIAA 2009**

#### 6.9.2 Electro-Explosive Devices (EED)

Electro explosive devices shall not be inadvertently initiated or dudded by a 25 kV electrostatic discharge caused by personnel handling. Compliance shall be verified by test (such as MIL-STD-331), discharging a 500 PF capacitor through a 500  $\Omega$  resistor to the EED (pin-to-pin and pin-to-case).

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes onboard emitters and the external EME (see MIL-STD-464A, Section 5.3). Compliance shall be verified by test, analysis, inspection, or a combination thereof. Inspection alone is inadequate.

#### 6.12 Electrical Bonding

Electrical bonding measures shall be implemented for management of electrical current paths and control of voltage potentials to ensure required space system performance and to protect both personnel and platform. Bonding provisions shall be compatible with other



tic ts for

ems



Standard: Electromagnetic Compatibility Requirements for Space Equipment and Systems (AIAA S-121A-2017)

AIAA 2017 (FINAL) **AIAA 2015 AIAA 2009** 

sive Devices (

Electrically-Initiated explosive devices shall no personnel handling. Compliance shall be verific resistor to the EED (pin-to-pin and pin-to-case). A drop-down menu lets Claire toggle between versions—and presents AIAA with an upsell opportunity

COMPARE ALL

charge caused by r through a 500 Ω

#### 6.9.3 Spacecraft Charging

Spacecraft vehicle design shall mitigate plasma vehicle charging to protect against puncture of materials and finishes and shock hazards from charge accumulation, to prevent damage to electronics and solar cells due to ESD, to prevent contamination due to electrostatic discharge and attraction of ions to charged surfaces, and to control electromagnetic interference caused by electrostatic discharge arising from vehicle charging. Resource documents may be found in the appendix.

#### 6.10.3 Hazards of Electromagnetic Radiation to Ordnance (HERO)

Ordnance shall not be inadvertently initiated or dudded by radiated EME. The EME includes onboard emitters and the external EME (see MIL-STD-464C, Section 5.3). Compliance shall be verified by test, analysis, inspection, or a combination thereof. Inspection alone is inadequate.

#### 6.12 Electrical Bonding

Electrical bonding measures shall be implemented for management of electrical current paths and control of voltage potentials to ensure required space system performance and to protect both personnel and platform. Bonding provisions shall be compatible with other requirements imposed on the space system for corrosion control. Compliance shall be verified by test, analysis, inspection, or a combination thereof, for the particular bonding provision. Compliance of equipment installation bonds shall be verified by test.







**Figures** 

References

Cited By

Details



Standard: Electromagnetic **Compatibility Requirements for** Space Equipment and Systems

#### Related Articles:

Conjugate Analyses of Ablation in **Rocket Nozzles** 

Peter G. Cross and Iain D. Boyd

Can We Estimate Air Density of the Thermosphere with CubeSats?

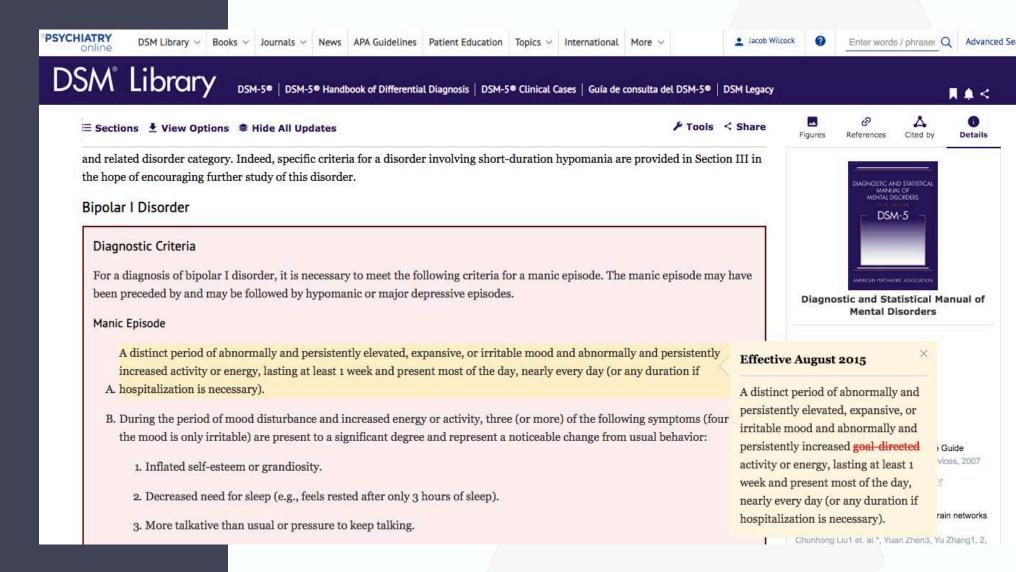
Raphael F. Garcia, Zimo R. Sibbing and Adriaen Van Camp

**Smart Projectile Parameter Estimation Using Meta-Optimization** 

Matthew Gross and Mark Costello



Custom user interfaces (UIs)





# **Living Documents**

Get changes to critical reference documents to your readers—fast

Bridge the gap between print editions with a new subscription service to online updates



# **Living Documents**

- Works for multiple publication types
- Must be updated regularly
- Version control
- Can be human- or machine-readable
- Sell subscriptions:
  - To universities, individuals or corporations
  - Tiered model: updates are available via premium subscription only



Example #2
"Chunking" content

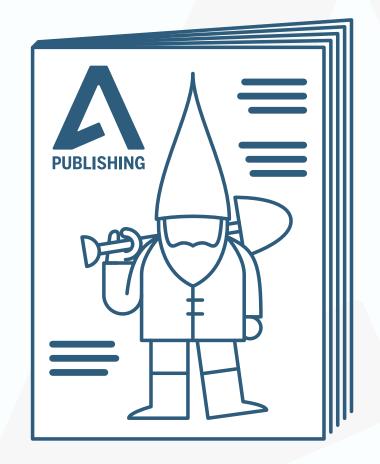
How Awesome Publishing repurposes an essential manual to reach new audiences



### The Manual of Garden Gnome Engineering

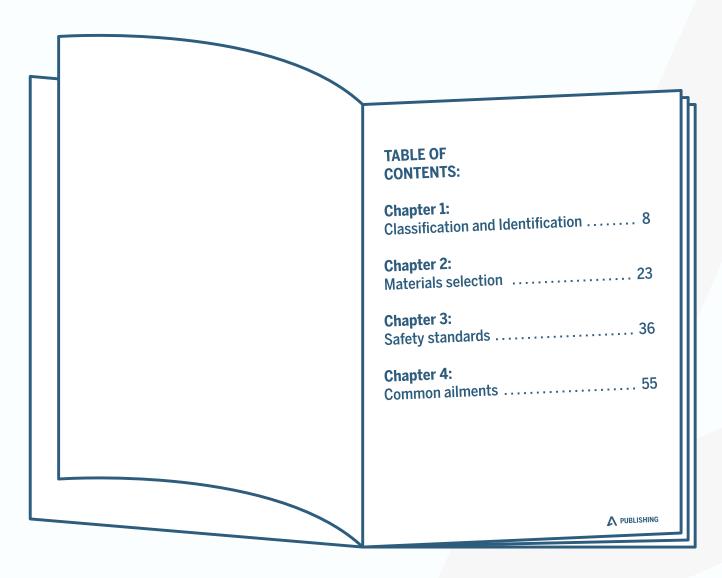
The authoritative guide—and de facto industry standard—for the safe and high-quality production of garden gnomes worldwide.

Published by Awesome Publishing.



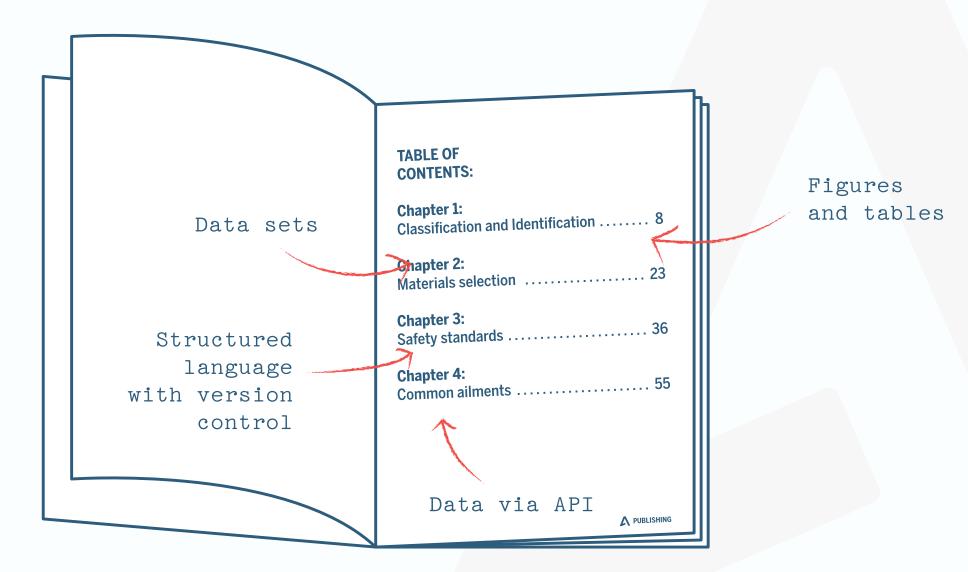


## The Manual of Garden Gnome Engineering





## The Manual of Garden Gnome Engineering



# Challenges

- Decorative garden statue engineering: a fast-evolving field
- Awesome Publishing standards review board meets monthly
- Manual of Decorative Garden Statue Engineering (MDGSE) published annually



Result: Some updates must wait nearly a year before becoming publicly available



## **Solution: Living Documents**

- Distribute live updates via Literatum
- Make the updates easy to find
- Sell premium subscriptions to the updates



but first...





## Solution: Literatum Digital Objects technology

Chunk content beyond chapters.

Assign each section, figure, table, diagram, etc., its own DOI.



## Solution: Literatum Digital Objects technology

Chunk content beyond chapters.

Assign each section, figure, table, diagram, etc., its own DOI.

### Then, each content object can be:

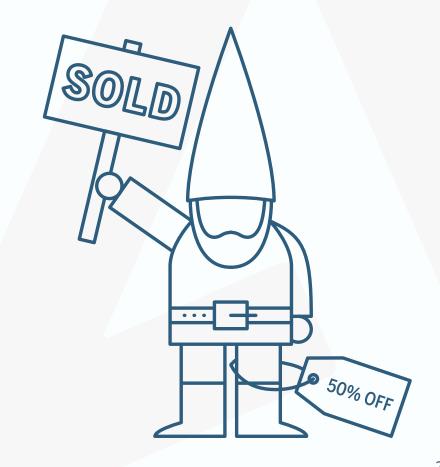
- Discovered
- Promoted

Tagged

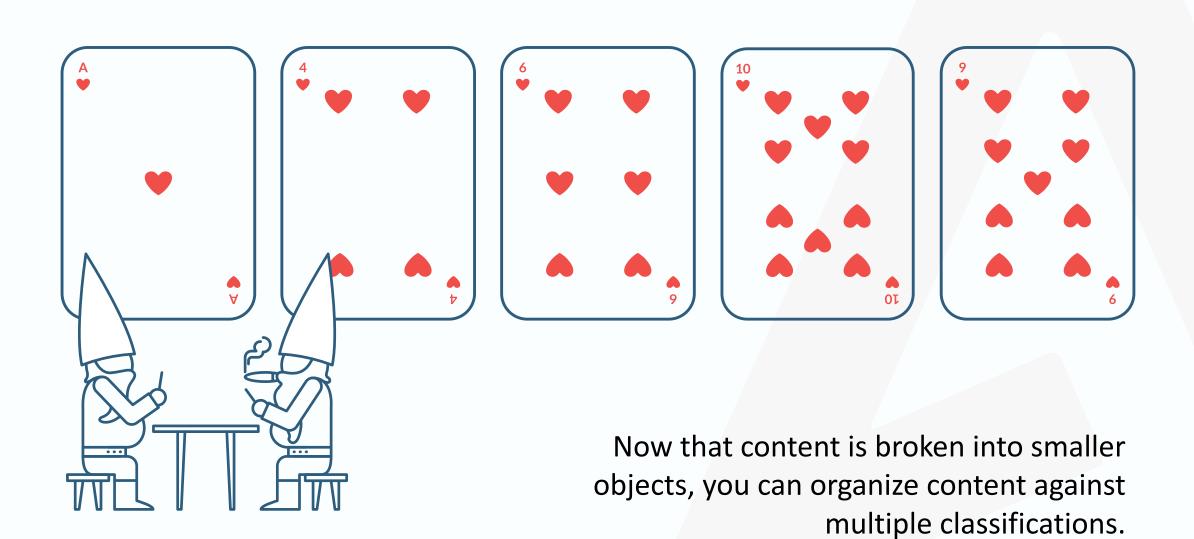
Bundled

Targeted

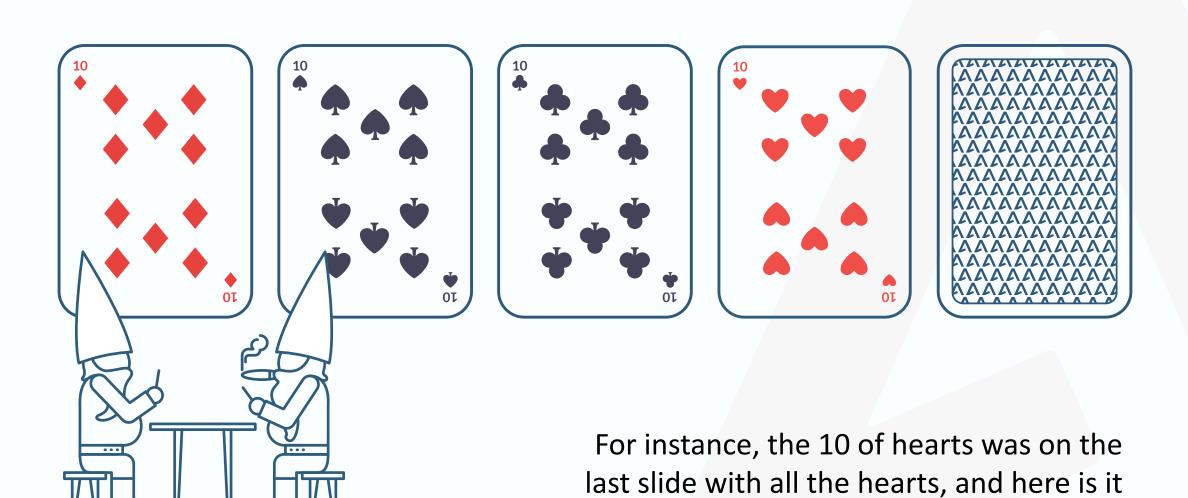
- Reordered
- Discounted
- Sold





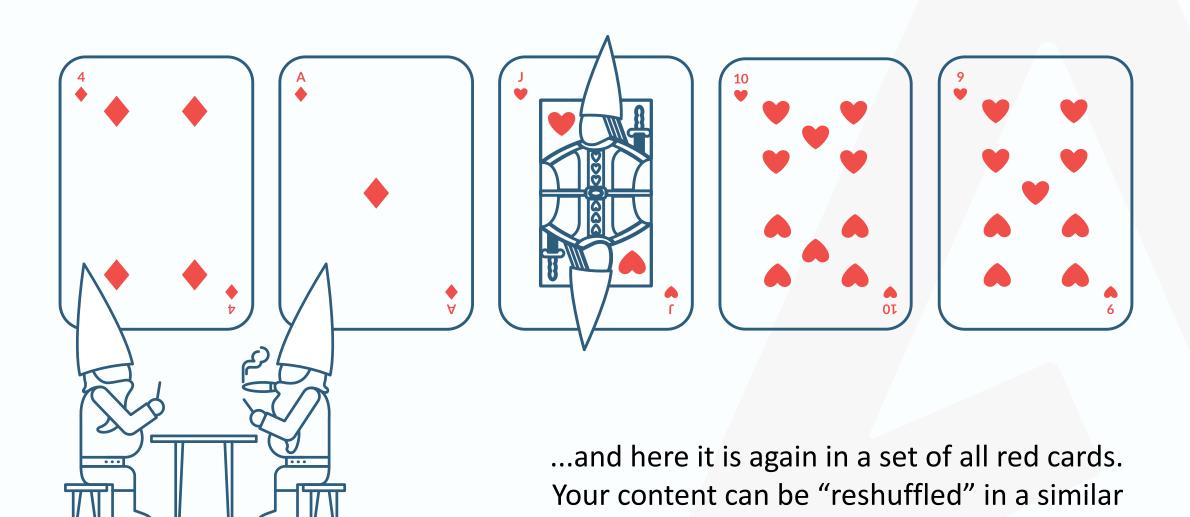






again with all of the other 10's...

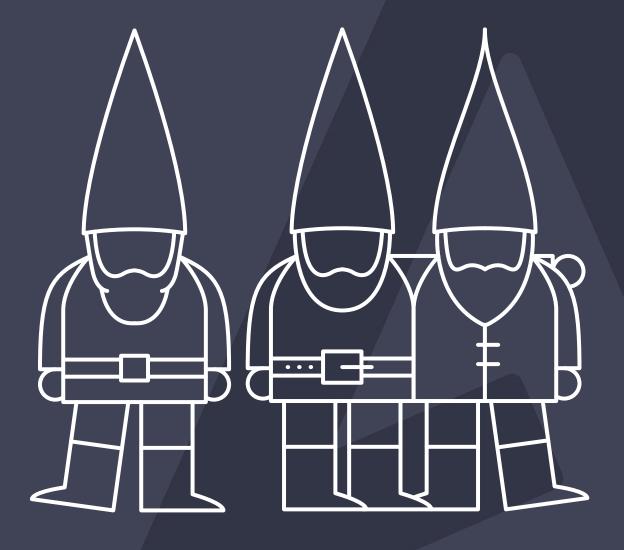




way to serve different audiences.



Curating content products to fit multiple audiences



# Δ

# **Use Case: Update tracking**

- Literatum notifications for new updates
- Updates can be easily reviewed
- Any device / mobile responsive
- Previous, version-controlled content available



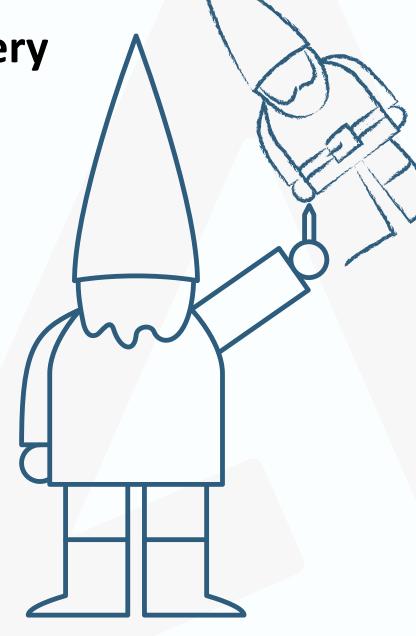
Δ

**Use Case: Topic-Based Discovery** 

 Interested in both old and new content

 Enjoys "Sustainable Garden Decorations," a Content as a Service microsite about green gnome engineering

Specialist in environmentally friendly gnome design

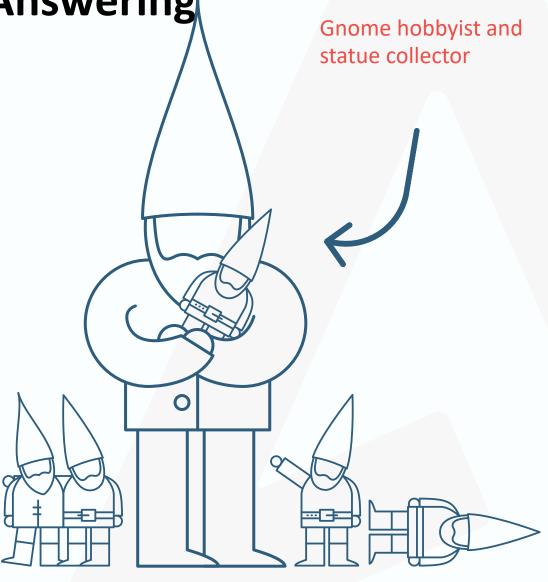


Δ

**Use Case: Question Answering** 

 Interested only in nonprofessional content on gnome ID, classification, and gnomenclature

Enjoys search-related
 Q&A interactions...



A

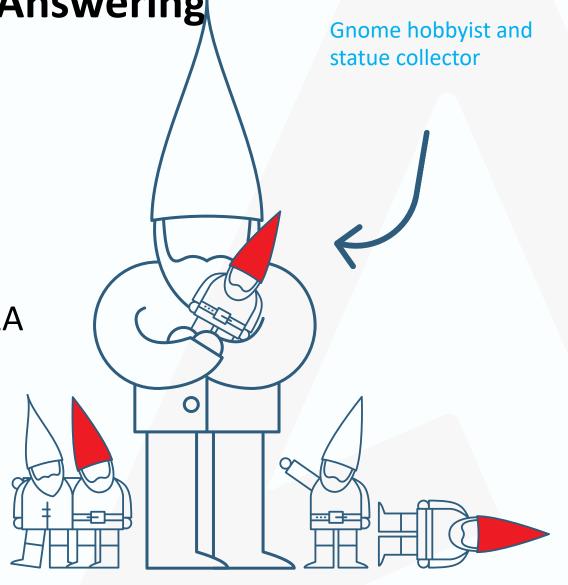
**Use Case: Question Answering** 

 Interested only in nonprofessional content on gnome ID, classification, and gnomenclature

Enjoys search-related Q&A interactions...

**Q:** What kind of gnome statues have red hats?

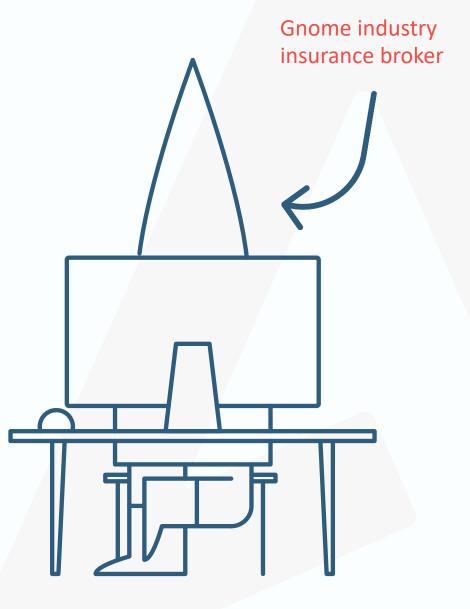
A: All German-made gnome statues have red hats. See chapter 6, "History of Gnomes."





### **Use Case: Data feeds**

- Subscribes to Awesome
   Publishing XML data feed for classification codes in risk management
- Her computer reads data feed updates describing changing risk profiles over time
- She uses this to update her proprietary model for predicting insurance claims





# **Technology**

The technology underlying Atypon's Content as a Service offerings



# Literatum capabilities that enable Content as a Service

1. Machine learning and artificial intelligence *Technology proven in the international BioAsQ challenge* 

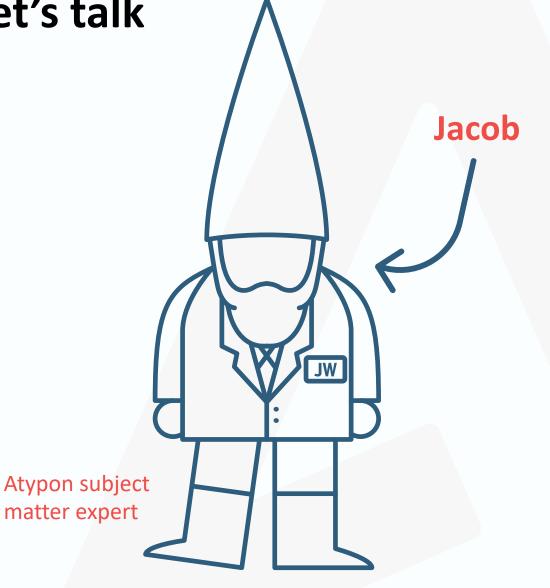


- 2. DeltaXML processing
- 3. Digital Objects
- 4. Access control



How to get started: let's talk

Speak to your Atypon salesperson about publications that you could convert to a *Content as a Service* model.



#### **ATYPON**

### **Webinar**Series

### **Get More Out of Literatum**

A new free 10-webinar series

Register at atypon.com/webinars

Up next:

WEDNESDAY, JULY 10
10:30 AM ET
Accelerating
content discovery with
Al-based technologies

WEDNESDAY, AUGUST 7
10:30 AM ET
Deepening readers'
engagement with
your content

Attract targeted audiences, extend their time onsite, and monetize their visits—through content marketing

# ATYPON

@atypon atypon.com info@atypon