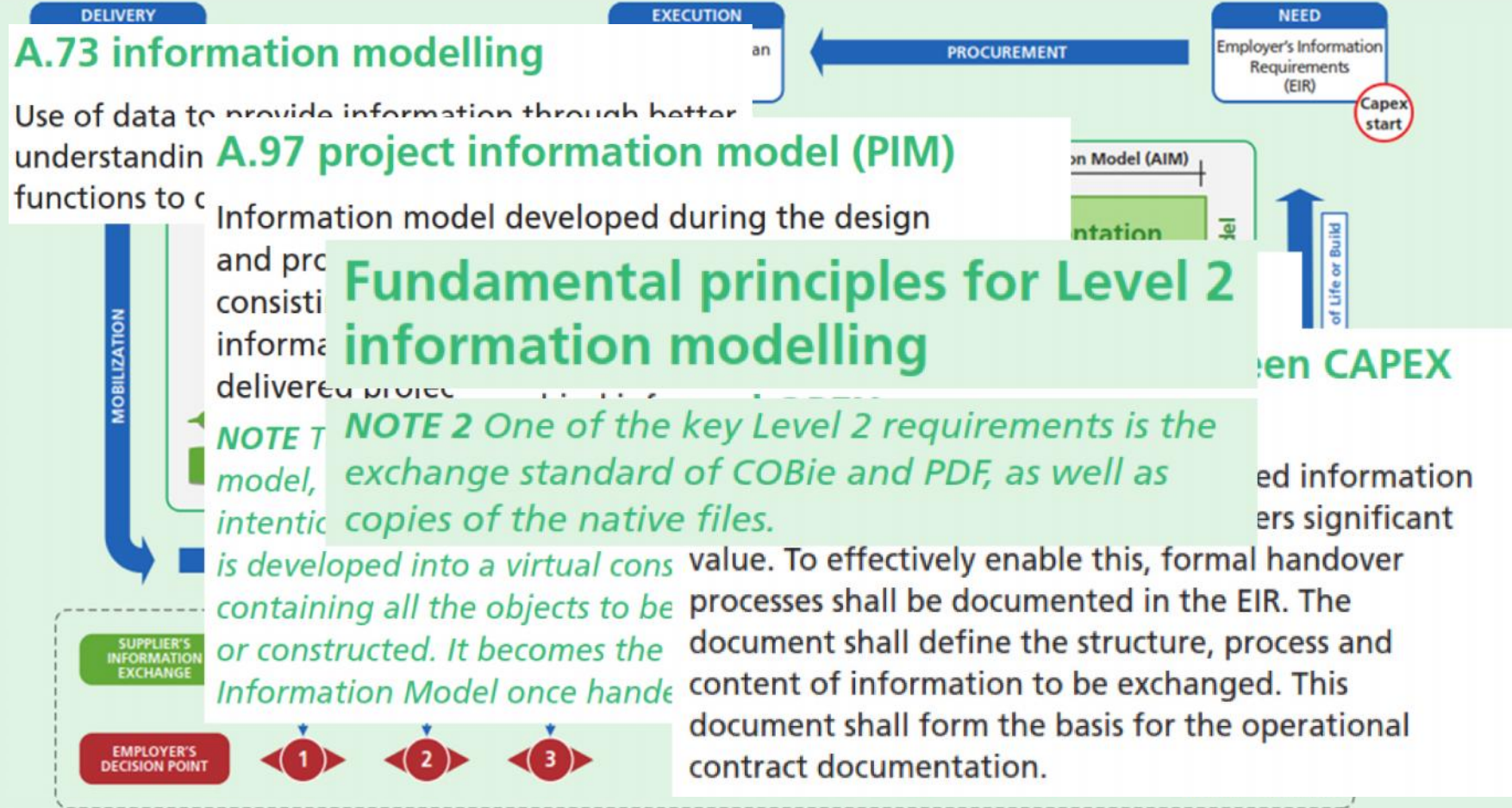# evolveconsultancy

DATA AIN'T DIFFICULT

NIGEL DAVIES, DIRECTOR

WHO ARE WE?

- ## Nigel Davies
  - 20+ years' experience in Engineering and Architecture
  - Chair of the AEC (UK) CAD & BIM Protocols
  - Regular writer and presenter

- ## Evolve Consultancy
  - CAD & BIM Management Services
  - Technology integration
  - Project support & mentoring

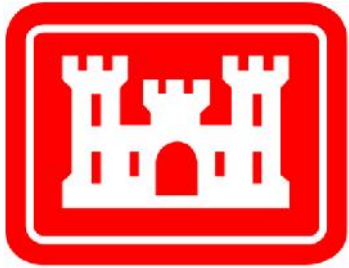- ## Bennetts Associates, John McAslan + Partners, MLM Group, Tideway, Wilkinson Eyre…

DATA ACCORDING TO THE BOOK OF BIM

WHAT IS COBIE?

Construction (to) **O**perations **B**uilding **I**nformation **E**xchange

Can't **O**perate a **B**uilding **I**n **E**xcel

WHAT IS COBIE?
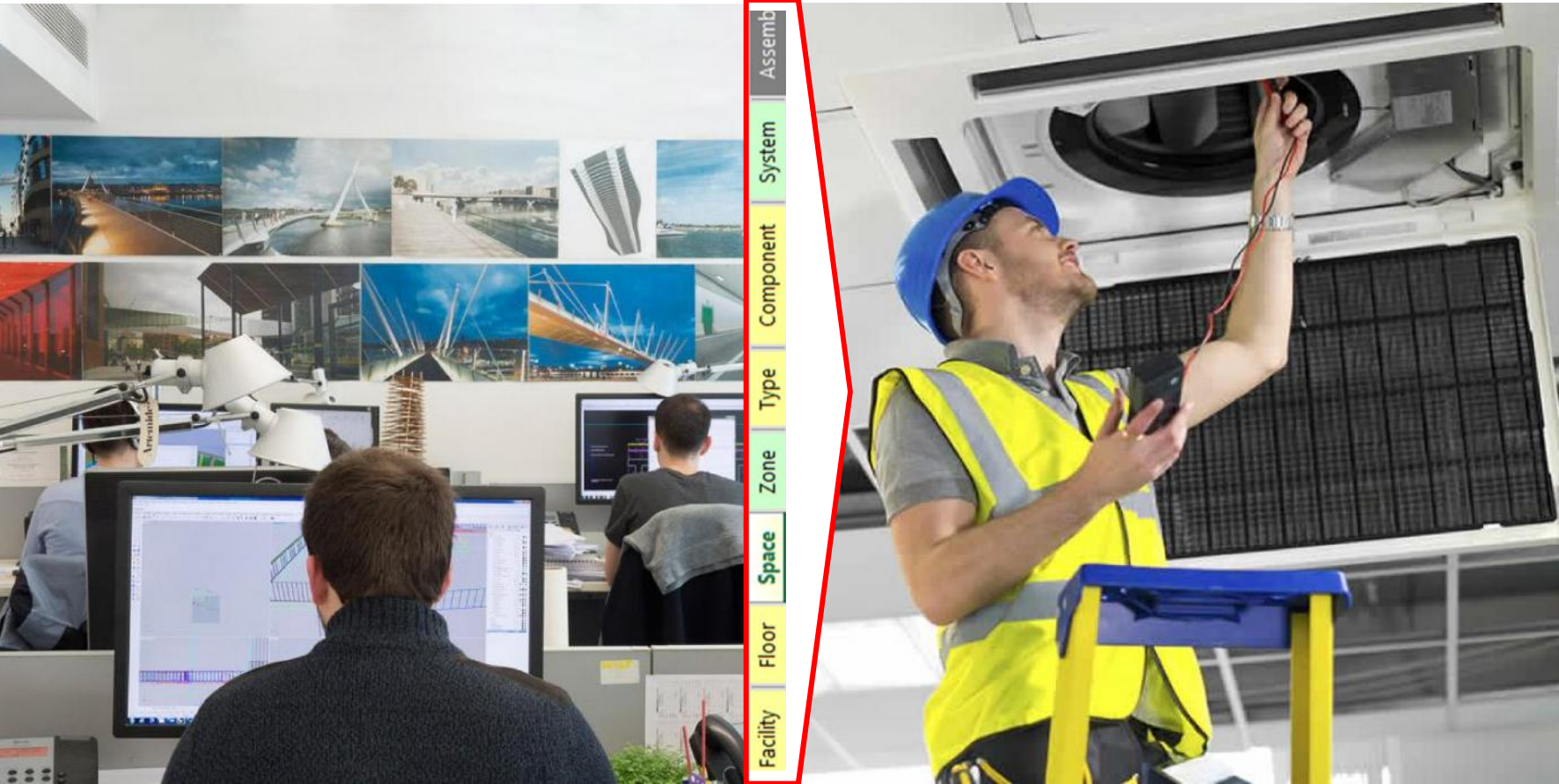

"COBie information only answers three questions:

- What rooms and equipment are delivered in a building?

- Where does a technician go to work on that equipment?

- How is the equipment operated and maintained?"

WHAT IS COBIE?

UNDERSTANDING COBIE

National BIM Standard-United States®
an initiative of the National Institute of Building Sciences buildingSMARTalliance®

National BIM Standard-United States® Version 3

4   Information ... ...

... Operation Building information exchange (COBie) – Version 2.4

4.2.3.2.2 Specific COBie spreadsheet terms and definitions

UNDERSTANDING COBIE

COBIE CONTENT

text	required
text	reference to other sheet or pick list
text	external reference
text	if specified as required
text	secondary information when preparing product data

COBIE CONTENT

4.2.3.2.2.1
contact

A worksheet in the COBie spreadsheet. Each row in the Contact worksheet identifies a person or company referenced elsewhere in a COBie spreadsheet. Contact.Email is the primary key for this worksheet.

Email	CreatedBy	CreatedOn	Category	Company	Phone	ExternalSystem	ExternalObject	ExternalIdentifier	Department	OrganizationCode	GivenName	FamilyName	Street	PostalBox	Town	StateRegion	PostalCode	Country

4.2.3.2.2.16
Facililty

a worksheet in the COBie spreadsheet. There may only be one row in the facility worksheet. Projects composed of multiple facilities, shall be described by separate COBie spreadsheets. Facility.Name is the primary key for this worksheet.

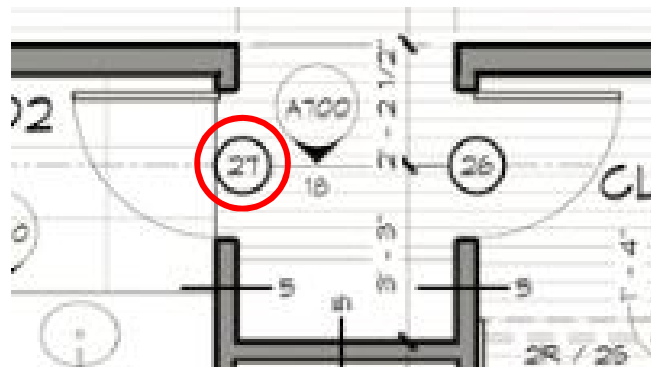| Name	CreatedOn	Category	ProjectName	SiteName	LinearUnits	AreaUnits	VolumeUnits	CurrencyUnit	AreaMeasurement	ExternalSystem	ExternalProjectObject	ExternalProjectIdentifier	ExternalSiteObject	ExternalSiteIdentifier	ExternalFacilityObject	ExternalFacilityIdentifier	Description	ProjectDescription	SiteDescription	Phase

COMPONENT EXAMPLE

Name	CreatedBy	CreatedOn	TypeName	Space	Description

4.2.3.2.2.86
Component.Name
the Component.Name must match the value found on design drawing schedules at the equivalent project stage of the current deliverable. For equipment scheduled by Type (and not Component) naming requirements to ensure unique names for every component shall be specified by contract.

COMPONENT EXAMPLE

Name	CreatedBy	CreatedOn	TypeName	Space	Description
Instance.Mark					

4.2.3.2.1.1
CreatedBy
the contact email of the person or company creating or updating a row of COBie data.

Email

nigel@evolve-consultancy.com

COMPONENT EXAMPLE

Name	CreatedBy	CreatedOn	TypeName	Space	Description
Instance.Mark	Email				

COMPONENT EXAMPLE

Name	CreatedBy	CreatedOn	TypeName	Space	Description
Instance.Mark	Email	Date			

4.2.3.2.2.55
Type.Name
the Type.Name must match the value found on design drawing schedules at the equivalent project stage of the current deliverable.

Name
Type.Mark

COMPONENT EXAMPLE

Name		CreatedBy		CreatedOn		TypeName		Space		Description	
Instance.Mark		Email		Date		Type.Mark					

4.2.3.2.2.41
Space.Name

the Space.Name must match the value found on design drawings at the equivalent project stage of the current deliverable.
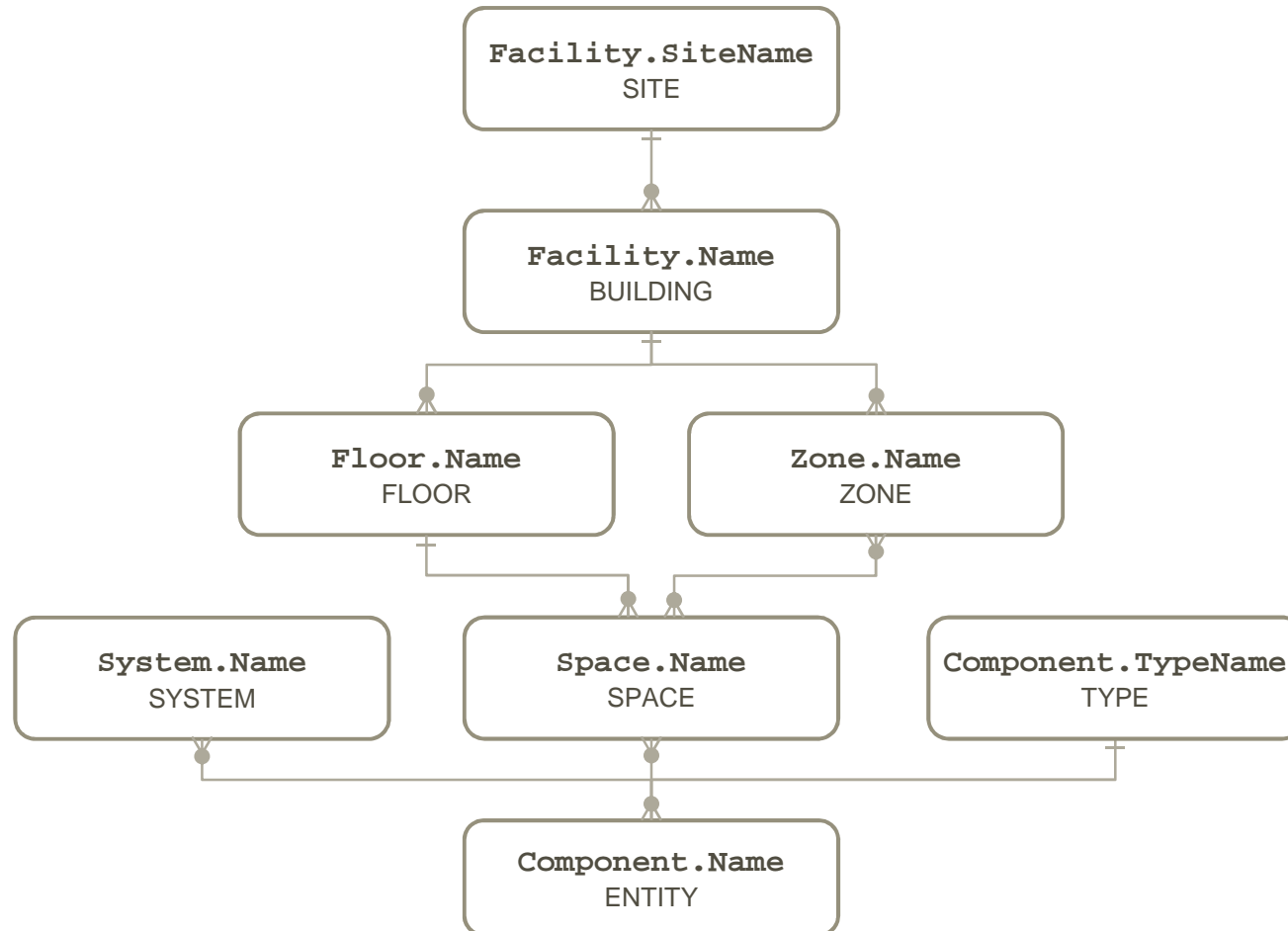
Name
R101

etc

RELATIONSHIPS

- BS1192-4 section 6.3.1

a) Every Space (location) should be assigned to one Floor (region).

b) Every Space (location) should be assigned to at least one Zone.

c) Every Floor and Zone should have at least one Space (location).

d) Every Component should be assigned to at least one Space (location), from which it is used, inspected or maintained.

e) Every Component should be assigned to one Type.

f) Every Component should be assigned to at least one System, identifying its function.

g) Every Type should apply to at least one Component.

RELATIONSHIPS

EXTERNAL DOCUMENTS

Name	CreatedBy	CreatedOn	Category	ApprovalBy	Stage	SheetName	RowName	Directory	File

4.2.3.2.2.157
Document
a worksheet in the COBie spreadsheet. Document records identify external files that provide information associated with data in a given COBie deliverable. Document.Name, Document.SheetName, Document.RowName, Document.Stage comprise the primary key for this worksheet.

EXTERNAL DOCUMENTS

Name	CreatedBy	CreatedOn	Category	ApprovalBy	Stage	SheetName	RowName	Directory	File
Performance Spec									

4.2.3.2.2.157
Document
a worksheet in the COBie spreadsheet. Document records identify external files that provide information associated with data in a given COBie deliverable. Document.Name, Document.SheetName, Document.RowName, Document.Stage comprise the primary key for this worksheet.

- Name = document name

EXTERNAL DOCUMENTS

Name	CreatedBy	CreatedOn	Category	ApprovalBy	Stage	SheetName	RowName	Directory	File
Performance Spec						Type			

4.2.3.2.2.157
Document
a worksheet in the COBie spreadsheet. Document records identify external files that provide information associated with data in a given COBie deliverable. Document.Name, Document.SheetName, Document.RowName, Document.Stage comprise the primary key for this worksheet.

- Name = document name
- SheetName = to which sheet is the document associated

EXTERNAL DOCUMENTS

Name	CreatedBy	CreatedOn	Category	ApprovalBy	Stage	SheetName	RowName	Directory	File
Performance Spec						Type	Type.Name		

4.2.3.2.2.157
Document
a worksheet in the COBie spreadsheet. Document records identify external files that provide information associated with data in a given COBie deliverable. Document.Name, Document.SheetName, Document.RowName, Document.Stage comprise the primary key for this worksheet.

- Name = document name
- SheetName = to which sheet is the document associated
- RowName = the Name value of the related sheet and row

ATTRIBUTES

4.2.3.2.2.168
Attribute
a worksheet in the COBie spreadsheet. Attribute records identify external files that provide information associated with data in a given COBie deliverable. Attribute.Name, Attribute.SheetName, Attribute.RowName, Attribute.Category comprises the compound key for this worksheet.

4.2.3.2.2.157
Document
a worksheet in the COBie spreadsheet. Document records identify external files that provide information associated with data in a given COBie deliverable. Document.Name, Document.SheetName, Document.RowName, Document.Stage comprise the primary key for this worksheet.

3.6.2   Attribute
named specific characteristic associated to an asset

Constant Attributes (excluding identification, quantities and location details) should be assigned to:

- the Type or System, not the Component; and

- the Floor (region) or Zone, not the Space (location).

ADDITIONAL DATA

Any additional sheets specified by the employer should occur in the deliverable after the final PickLists sheet.

Any additional columns specified by the employer should occur to the right of the final specified columns and should have a header column name.

Any additional PickList values specified by the employer should occur below the recommended values.

The format of each information exchange shall be defined by the organization that has defined the OIR and the AIR.

NOTE 2 Where COBie is used for information exchange then the content of the COBie files should be determined by the AIR.

OIR Organisational Information Requirements
The information an organisation needs to operate their assets

AIR Asset Information Requirements
The information required for a specific asset

EIR Employers Information Requirements
The AIR informs the EIR for major works

BEP BIM Execution Plan
The design team's response to the EIR

IT'S AS EASY AS FLYING...

"THE KNACK OF FLYING IS LEARNING HOW TO THROW YOURSELF AT THE GROUND AND MISS"

Douglas Adams

✉ nigel@evolve-consultancy.com

🐦 @nigelpdavies