第四回国際土木委員会
資料3

buildingSMART International
東京サミット報告

buildingSMART Japan
インフラストラクチャ小委員会
有賀貴志

国際土木委員会

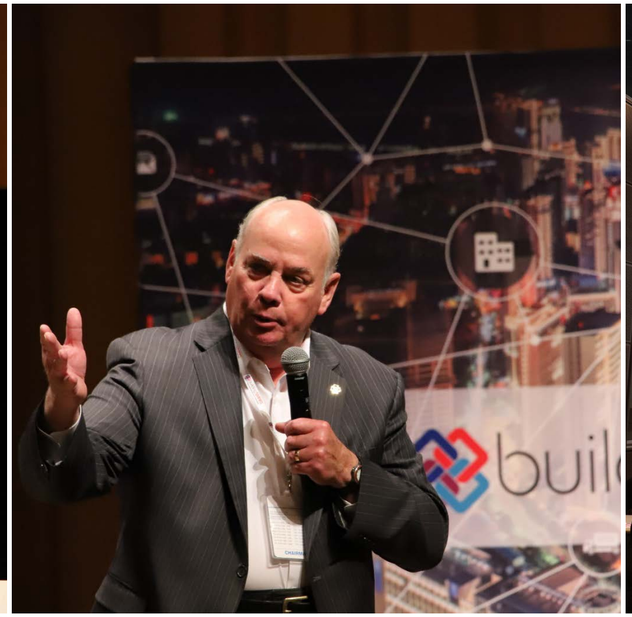
一般社団法人 buildingSMART Japan

報告内容

1. 東京サミット概要
2. buildingSMART Internationalの動向
3. Infrastructure Roomの動向
4. プロジェクトの動向

Standards Summit, Tokyo 2018

Standards Summit, Tokyo 2018



様々な機関との連携

CHAPTERS（支部）

Full Chapter（14）

Developing Chapter（4）

MEMBERS（会員）

Strategic Advisory Council

ARUP
CCCC CHINA COMMUNICATIONS CONSTRUCTION COMPANY
鹿島 KAJIMA CORPORATION
LafargeHolcim
NEMETSCHEK GROUP
SIEMENS Ingenuity for life

Multi National Members

BRICSCAD
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coBuilder
DASSAULT SYSTEMES
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ACCA SOFTWARE
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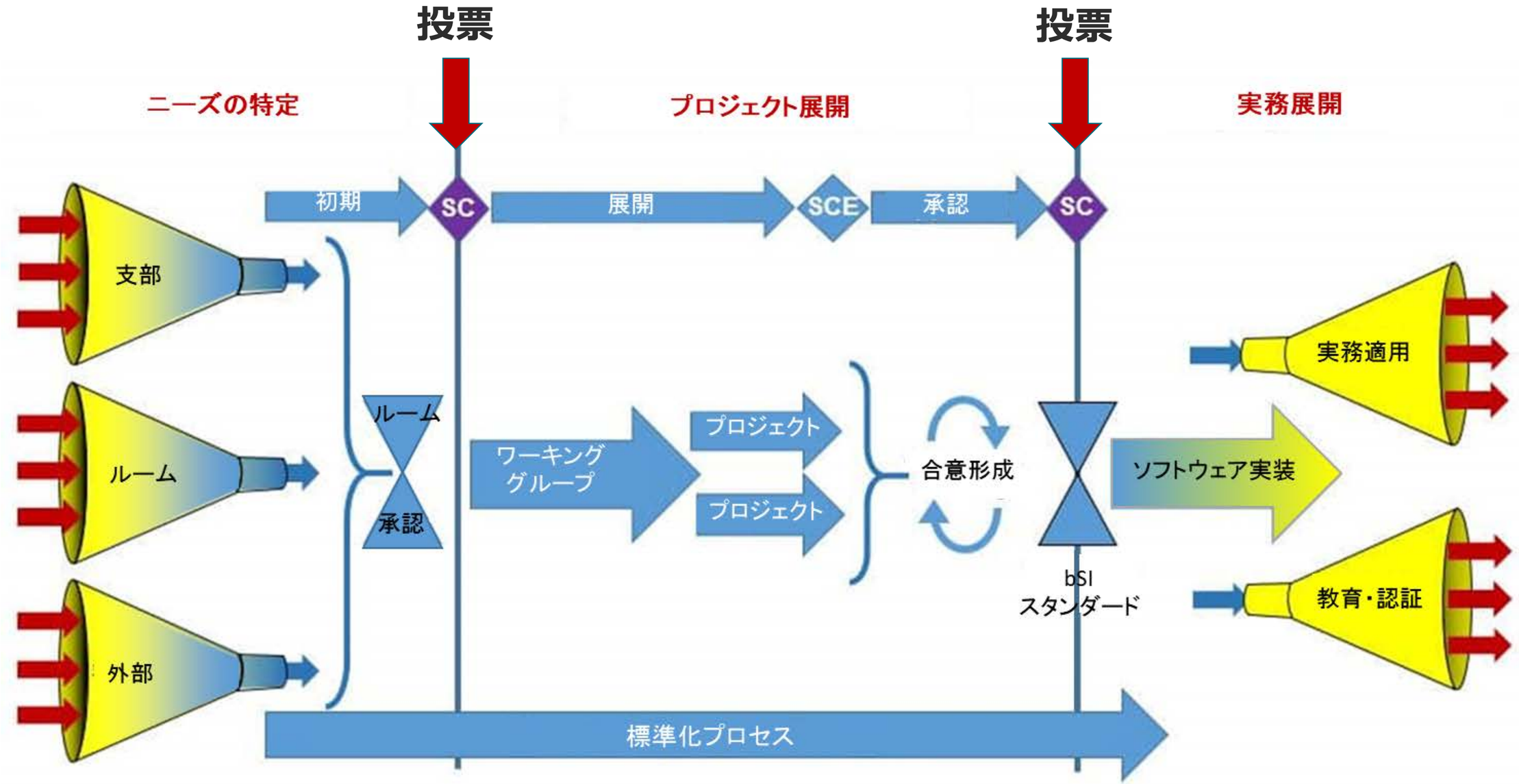
DIREKTORATET FOR BYGGKVALITET
ferrovial
FM Global
HOCHTIEF PPP SOLUTIONS
HOCHTIEF ViCon
h+k
mensch maschine CAD as CAD can
Metro
ÖBB INFRA
OYO oyo corporation
Pro Material The digital construction network
RFI RETE FERROVIARIA ITALIANA GRUPPO FERROVIE DELLO STATO ITALIANE
Rijkswaterstaat
SAMOOCM
Schiphol Amsterdam Airport
SNCF RÉSEAU
TRAFIKVERKET

標準化プロセス


投票
投票
ニーズの特定
プロジェクト展開
実務展開
初期
SC
展開
SCE
承認
SC
支部
ルーム
外部
ルーム
承認
ワーキング
グループ
プロジェクト
プロジェクト
合意形成
bSI
スタンダード
ソフトウェア実装
実務適用
教育・認証
標準化プロセス

票数

Chapter Status	Chapter Rights			Annual Rates
	International Council	Standards Committee	Rooms	
	Votes	Votes	Steering Committee	€ 000
Full	1	2		20
Developing		1		10

Classes of Organisational Member

Member Category	Member Benefits				Rates	
	Memberships		Standards Committee	Rooms	€ 000 / yr	
	SAC	Chapters	Votes	Steering Committee		
Strategic		5	2		100	
					Employees >250	Employees <250
International		5	1		40	20
Standard		1	1		15	8

Infrastructure Room Steering Committee（運営委員会）

Chair

Tiina Perttula
buildingSMART
Nordic
2016-2020

Deputy Chair

Jim Plume
buildingSMART
Australasia
2018-2022

Technical Leader

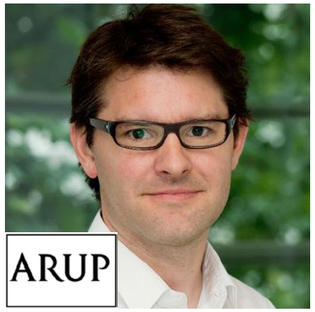
Christophe Castaing
buildingSMART
France
2018-2022

Nobuyoshi Yabuki
buildingSMART
Japan
2018-2022

Benno Koehorst
Rijkswaterstaat
(Standard Member)
2016-2020

Phil Jackson
buildingSMART
UK & Ireland
2016-2020

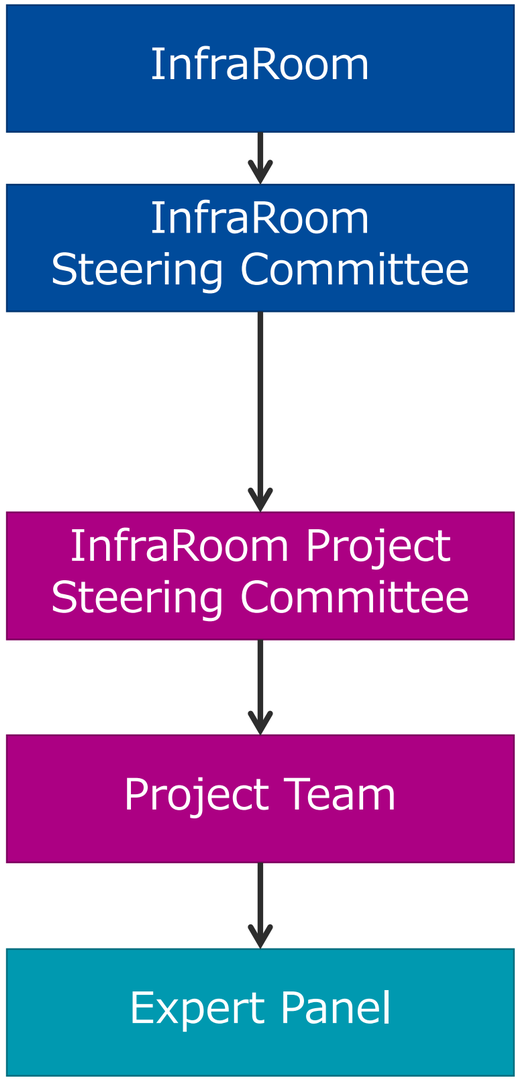
Ronald Bergs
buildingSMART
Benelux
2016-2020



Tristan McDonnell
Arup
(Strategic Advisory Council)
2018-2022

Jorge Torrico
buildingSMART
Spain
2018-2022

プロジェクトの実施体制



インフラルーム
- インフラストラクチャルームは、多くの関係者が出席できるオープンなフォーラムである。
- ユーザと開発者の両者の参加を意図している。IRは、新しい作業項目を提案できる。

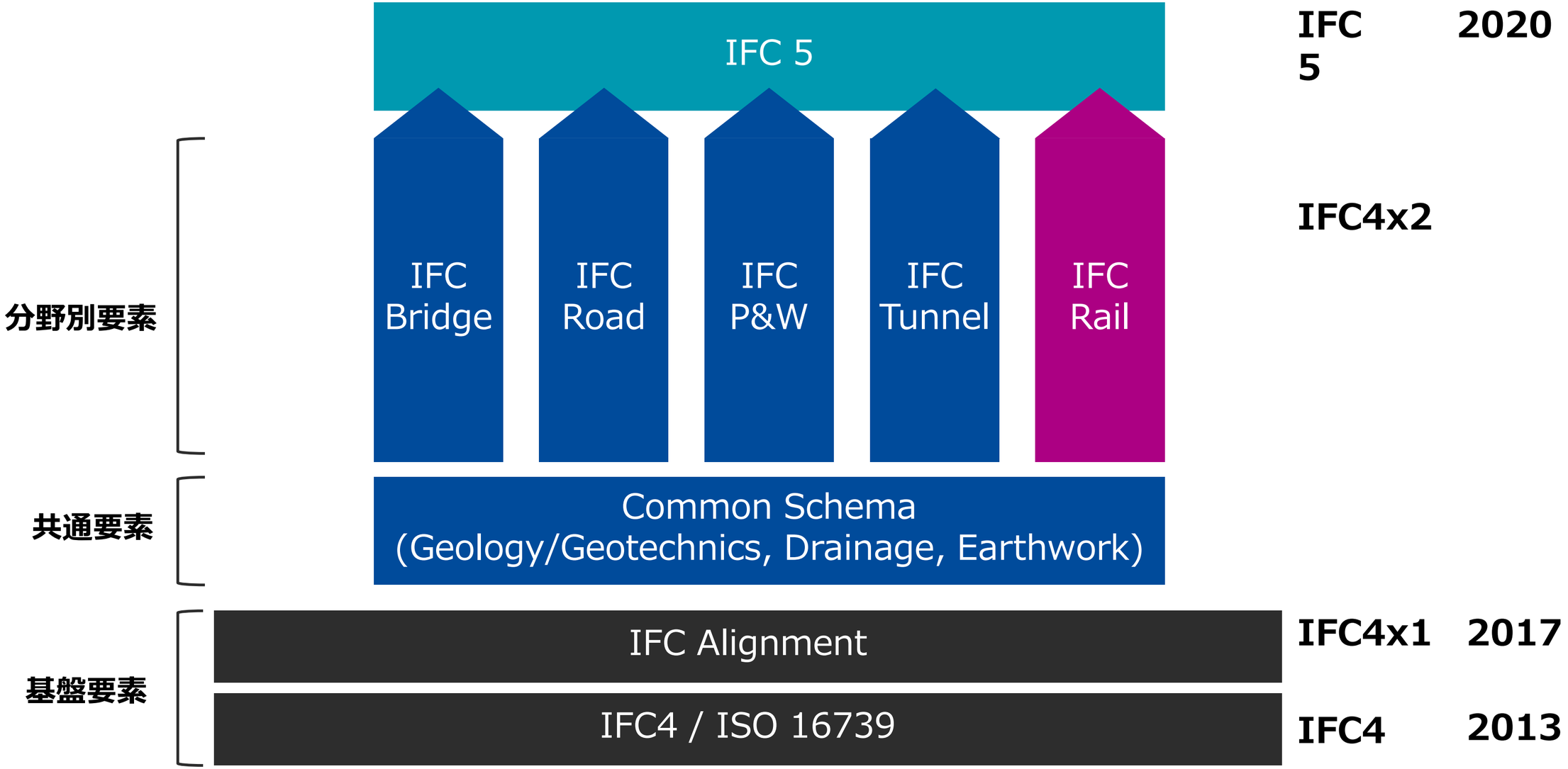
運営委員会
- インフラストラクチャ分野の標準開発のための方針と作業計画を作成する。
- bSI標準委員会、bSI事務局、他のルーム、その他の標準化団体と調整する。
- スポンサーからの収入を上げる。
- bSI標準委員会の承認後、プロジェクトおよびプロジェクトの運営体制を整える。
- 作業項目を選定し、対応する作業グループを設置する。

プロジェクト運営委員会
- プロジェクト運営委員会は、プロジェクトの統括し、進捗状況を運営委員会に報告する。
- プロジェクトコーディネーターは、プロジェクトの日々の調整のための連絡役としてプロジェクト運営員会を代表して行動する。

プロジェクトチーム
- プロジェクト計画に基づいてプロジェクトを実行し、計画に従って成果を作成する。
- プロジェクト運営委員会に報告する。

専門家会議
- プロジェクトチームをサポートし、プロジェクトに関する分野または標準化に関するアドバイスを行う。

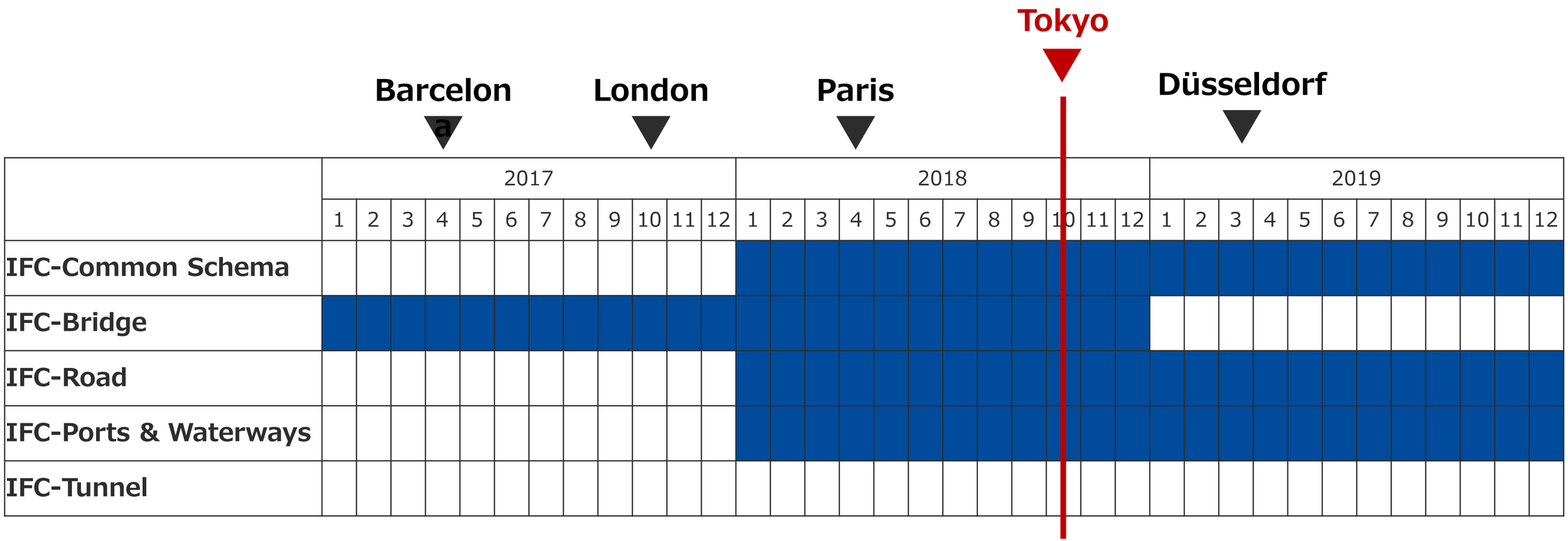
IFC5へのロードマップ



インフラストラクチャ・ルームで実施しているプロジェクト

	対象範囲	中心人物	参加団体
IFC-Common Schema **コモンスキーマ**	• 階層構成 • 地盤 • 土工 • 排水	**Jim Plume** buildingSMART Australasia	• Swedish Transport Agency, Trafikverket, • Finnish Transport Agency • Austroads, Australia • CRBIM China Railway BIM Alliance
IFC-Bridge **橋梁**	• 橋梁	**Christrophe Castaing** EGIS	• French MiNnD project • German Federal Ministry of Transport (BMVI) • Swedish Transport Agency Trafikverket, • U.S. American Association of State Highway and Transportation Officials (AASHTO) • Finnish Transport Agency • buildingSMART Japan.
IFC-Road **道路**	• 道路	**Moon Hyounseok** KICT	• KICT, Korea • Swedish Transport Agency, Trafikverket • Finnish Transport Agency, Liikennevirasto • German Federal Ministry of Transport (BMVI) • APLITOP, Spain • APOGEA Consultores SL, Spain • China Railway BIM Alliance CRBIM • Autodesk • French MiNnD project
IFC-Ports & Waterways **港湾および水路**	• 港湾 • 水路	**Haijian Li** Cardiff University	• CCCC , China • Cardiff University, UK • Royal Haskoning, Netherlands • Waldeck Consulting
IFC-Tunnel **トンネル**	• トンネル	---	---

プロジェクト毎の検討スケジュール



インフラストラクチャ・ルームで実施しているプロジェクト

	Common Schemaとの連携	Step1 利用場面の特定	Step2 分類の選定	Step3 IFCの拡張	Step4 MVDの作成	Step5 モデル検証 ソフト機能開発
IFC-Common Schema コモンスキーマ		• 対象範囲の特定 • 地盤、土工、排水				
IFC-Bridge 橋梁	• 階層構成の提案	• 要件分析レポート（最終版）の公開	• 概念モデルレポート（最終版）の公開	• IFC Bridge拡張スキーマ（案）の作成		
IFC-Road 道路	• 排水の提案 • 土工の提案	• 要件分析レポート（案）の作成	• 概念モデルの検討			
IFC-Ports & Waterways 港湾および水路	• 地盤の提案 • 動的要素の提案	• 要件分析レポート（案）の作成	• 概念モデルの検討			
IFC-Tunnel トンネル	計画中					

IFC-Common Schema

プロジェクト概要

- 土木構造物の共通要素を選定し、IFCの拡張を行うプロジェクト。
- プロジェクトリーダー：Jim Plume氏（buildingSMART Australasia）。
- Overall Architecture（全体構成）およびBridgeプロジェクトを起点として、空間構造、地盤、排水、信号および照明の共通化の必要性から開始された。
- IFC-Road、IFC-Bridge、IFC-Port & WaterysおよびIFC-Railと連携する。

期間

- 2018年1月～2019年12月

目標

- 土木構造物に共通する要素の選定
- 共通要素をIFCとして拡張するプロジェクトの計画を作成し、実行する。
- 平行して実施しているプロジェクトに対し、IFCのスキーマに矛盾が生じないように拡張するための技術的助言を行う。

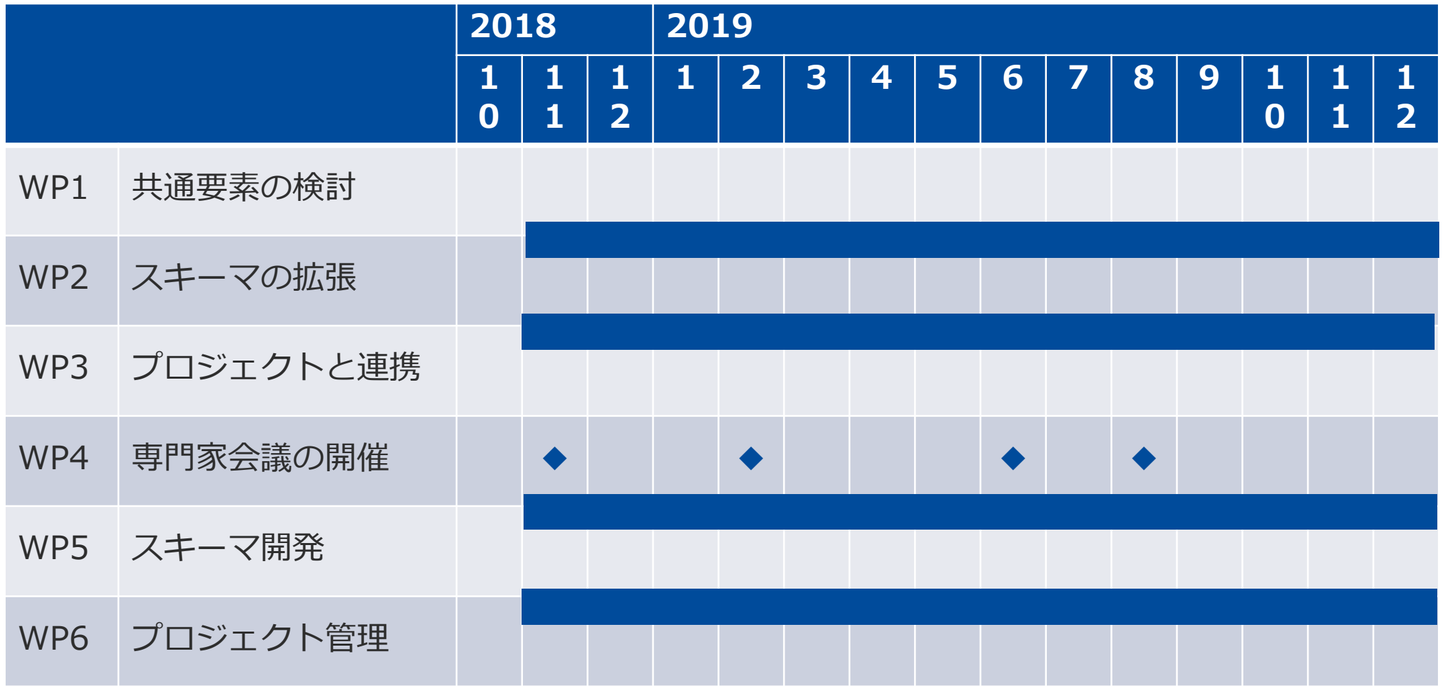
IFC-Common Schema

■ セッションの要点

インフラルームのプロジェクトからの以下の提案を受けて、プロジェクトの対象範囲を選定している。

- 階層構成
- 地盤
- 土工
- 排水
- 鉄道関連（線形、通信・電気、ケーブル、トポロジー）

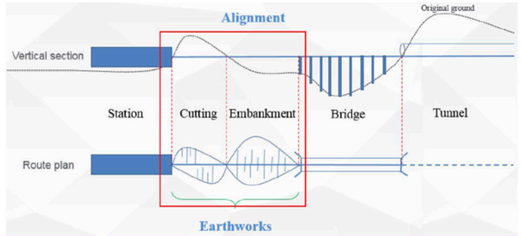
■ プロジェクトスケジュール



IFC-Common Schema

土工

- In-scope:
  - Subgrade
  - Embankment below subgrade
  - Excavation body
  - Slope protection
  - Subsoil treatment
  - Transition section
- Out of scope:
  - Retaining structure
  - Drainage system



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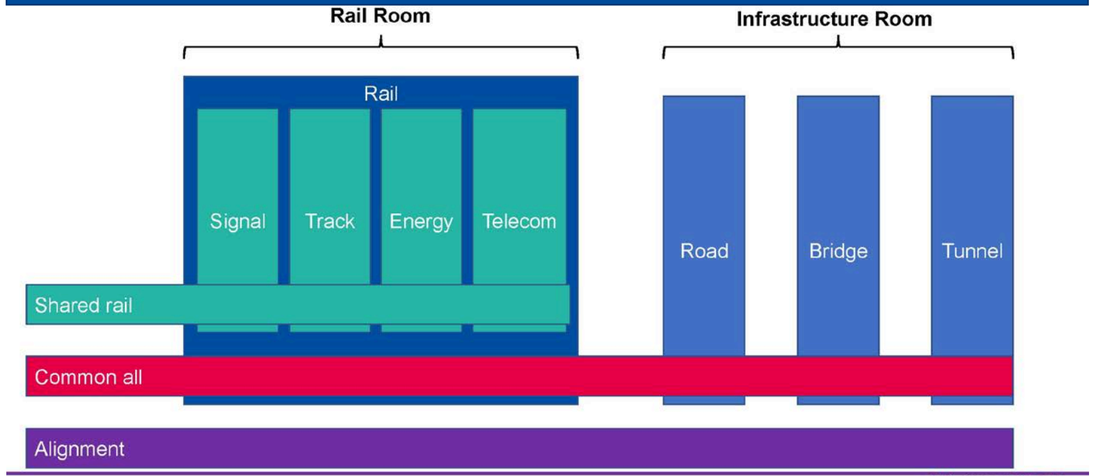
鉄道関連



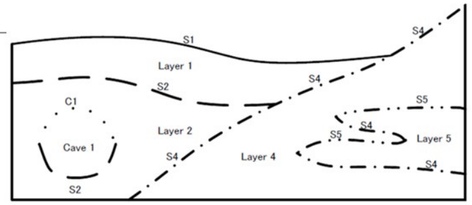
IFCRAIL Railway Room

地盤

Geometric Representation
The geometric definitions needed to represent and define the context of the geometric extent of entities in the use case.

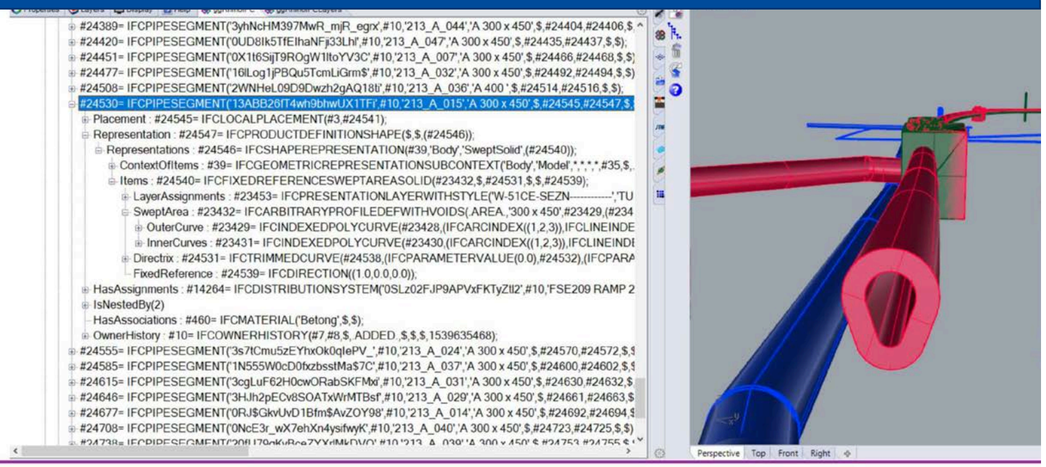
- Triangulated or Boundary Representation solid for detailed well-known strata
- * Triangulated Topographic Representation top-side surface for context and less-known strata
- Contour (plan) representation for conventional presentation
- Slope (plan) representation for hydrological planning

* Professor Nobuyoshi Yabuki PhD



Layer	Upper Boundary Surface
Layer 1	S1
Layer 2	S2
Layer 3	S3
Layer 4	S4
Layer 5	S5
Cave 1	C1

排水



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IFC-Bridge

プロジェクト概要

- 橋梁分野に関するIFCの開発を行うプロジェクト
- Christrophe Castaing氏（buildingSMART France）が運営。
- 2006年に日本とフランスが最初のIFC-Bridgeを開発し、2013年にフランスがIFC-Bridge V3を公開した。
- 2016年9月のチェジュ・サミットでbSI、bSJ、MINnD、BMVI、Trafikverkt、FTAがMOU（覚書）を締結

期間

- 2017年1月～2018年12月

目標

- IFC5の制定に向けた短期目標、その後の高度化を目指す長期目標に分けてプロジェクトを実施
- 橋梁に関するIFCの利用場面（ユースケース）の国際的合意
- IFC5の制定に向けた短期目標に対するIFC-Bridgeの検証
- IFC5の開発および実装に向けたロードマップを作成

IFC Bridge

■ セッションの要点

① 橋梁の要件分析レポート（最終版）、および橋梁の概念モデルレポート（最終版）を公開

② IFCの拡張スキーマ（案）を公開

■ サミットで公開された主要な資料

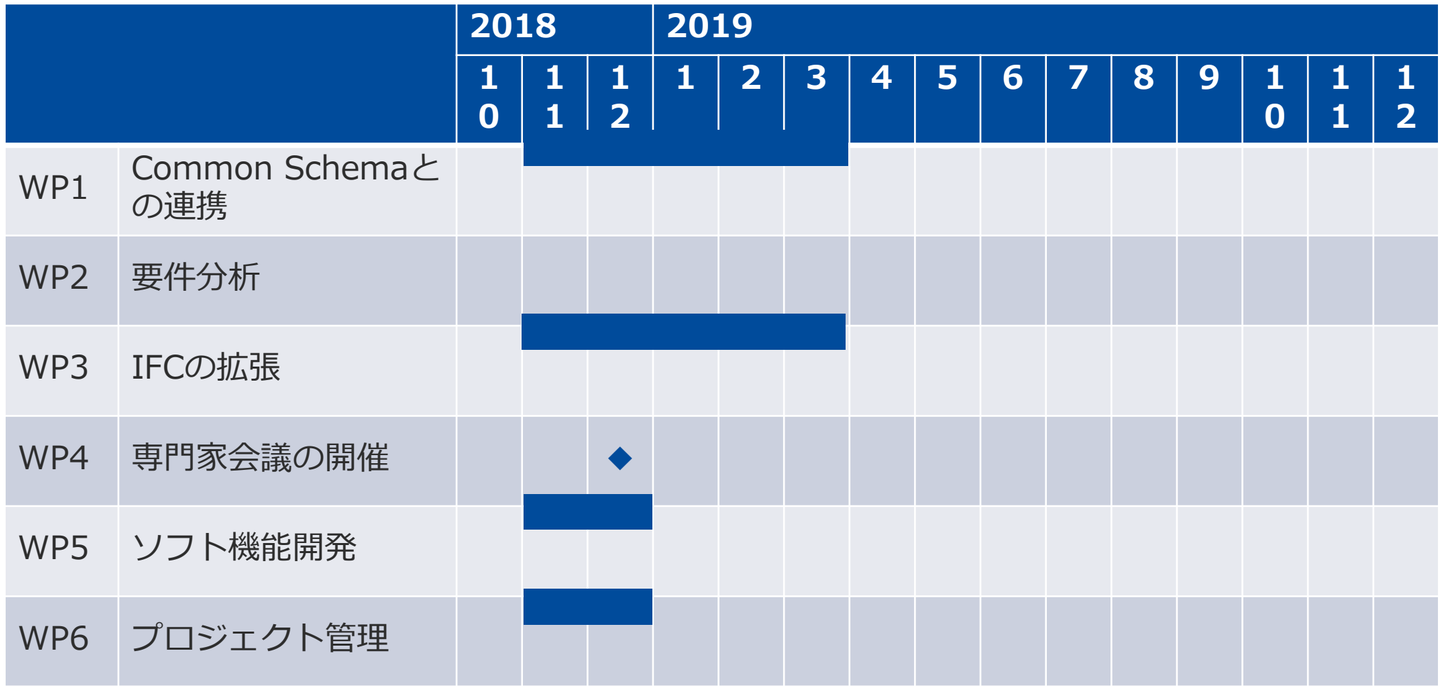
橋梁の要件分析レポート（最終版）

- ユースケース（利用場面）
- 対象範囲の決定
- 形状
- アセット管理に関する要件
- プロセスマップおよび交換シナリオ
- モデルビュー定義
- データ要件

橋梁の概念モデルレポート（最終版）

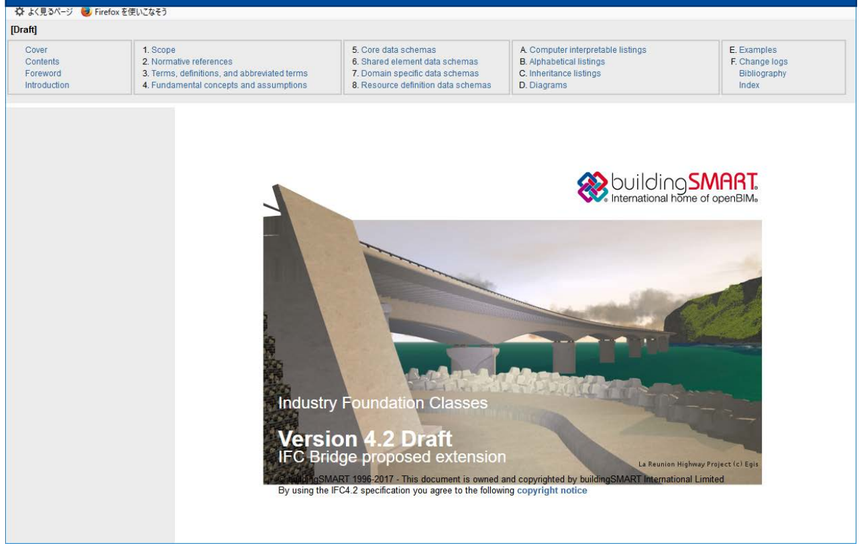
- モデル概念
- 形状表現、空間要素、物理要素
- システム

■ プロジェクトスケジュール



IFC Bridge

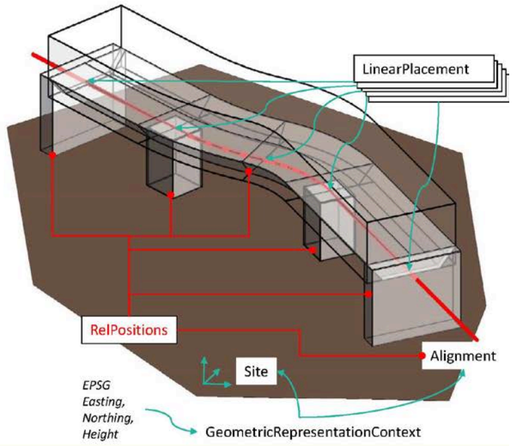
IFC-Bridge（案）



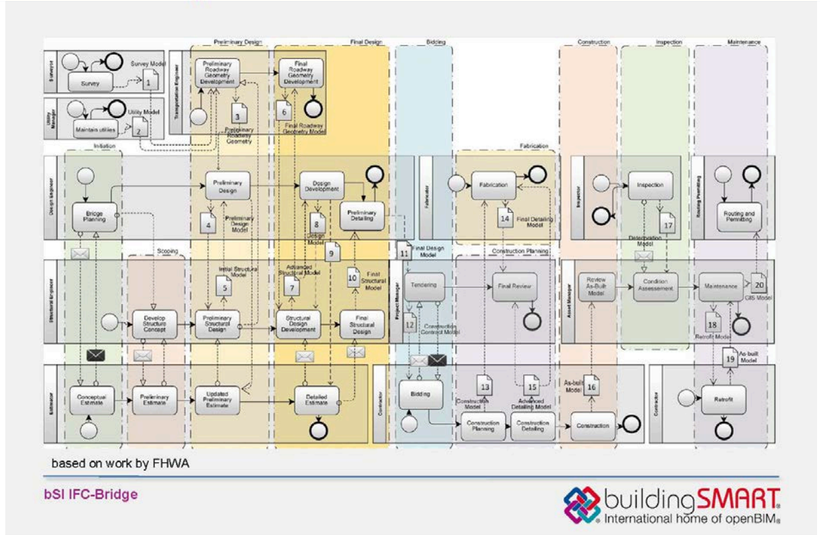
形状表現

- RelPositions
  - subtype of *RelConnects*
- SpanPlacement*
  - subtype of ObjectPlacement
- IntervalPlacement*
  - subtype of SpanPlacement

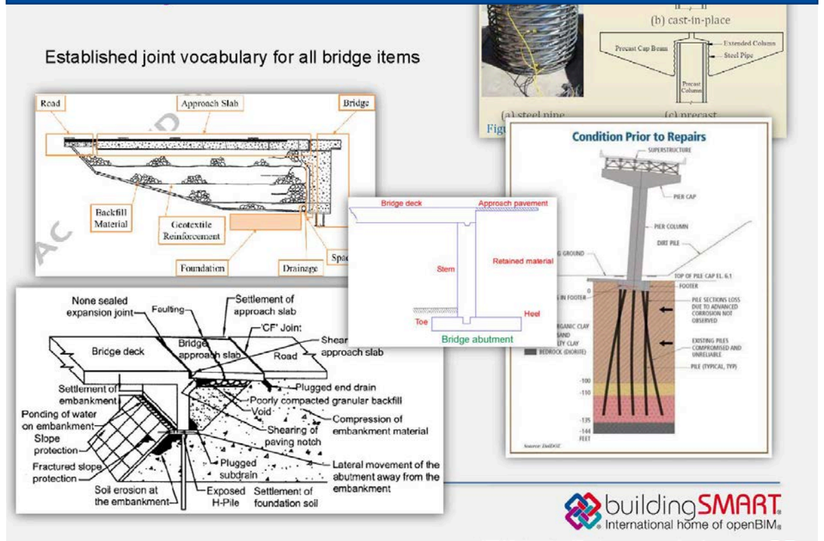
*) not expected in IFC4.2



プロセスマップ



分類



IFC-Road

プロジェクト概要

- 道路分野に関するIFCの開発を行うプロジェクト。
- Moon Hyounseok氏（KICT)が運営。
- 2016年にKICTで作成したIFC-RoadをbSI SPECとして公開。2017年4月のバルセロナ・サミットでbSI、KICT、CRBIMおよび他の6つの機関がMOU（覚書）を締結した。

期間

- 2018年1月～2019年12月

目標

- 道路管理データベースの情報（構造物の幾何形状、地形等）へのオープンアクセスを可能にする。
- 土木構造物の共通要素についてCommon Schemaプロジェクトと共同作業する。
- 道路分野について新たに提案したIFCの国際的合意を構築する。
- IFC-Roadを早期にアプリケーションでテストする

IFC-Road

■ **セッションの要点**
道路の要件分析レポート（案）を作成

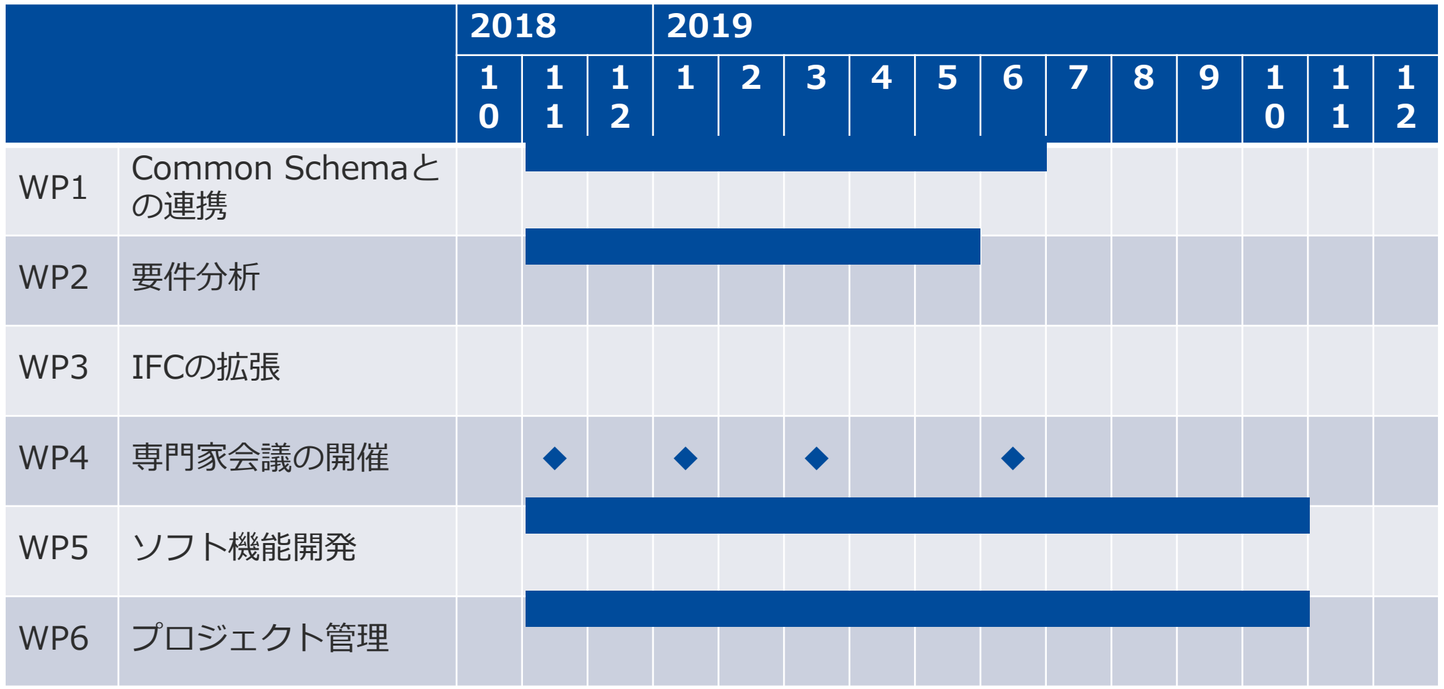
■ **サミットで公開された主要資料**
道路の要件分析レポート（案）

- 検討方法
- 対象範囲
- ユースケース
- 幾何表現と配置
- モデルビュー定義

プロセスマップ

道路の構造物等の分類

■ **プロジェクトスケジュール**



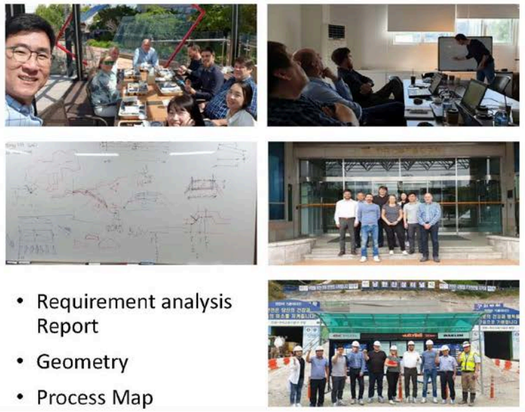
IFC-Road

ライブミーティング

- Munich (May 7~8)

- Taxonomy
- Use cases

- Korea (Sept. 17~19)



- Requirement analysis Report
- Geometry
- Process Map

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道路の要件分析レポート

- Draft requirement analysis report to be reviewed by expert panel (in the sharefile folder)

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道路の構成の分類

- Roadway
- Carriageway
- Traffic lane:
  - acceleration lane
  - additional climbing lane
  - bus lane
  - bus rapid transit (BRT)
  - carpool lane
  - climbing lane
  - cycle lane
  - deceleration lane
  - escape road
  - high-occupancy toll lane
  - overtaking lane
  - stopping lane
  - etc.
- Lay-by/turnout:
  - bus-stop
  - passing bay
  - parking bay
  - etc.
- Median strip/central reserve
- Shoulder/verge:
  - hard shoulder
  - hard strip
  - soft shoulder
  - verge
- Traffic island/Refuge:
  - central island
  - refuge island
- Roadside
- Berm / Bench / Ledge
- Bund
- Side slope/batter
- Back slope
- Roadside ditch
- Green space/belt
- Cycle- path/way
- Cycle- and footpath
- Foot- path/way
- Exit
- Underpass
- Overpass/Flyover
- Arrester bed
- etc..

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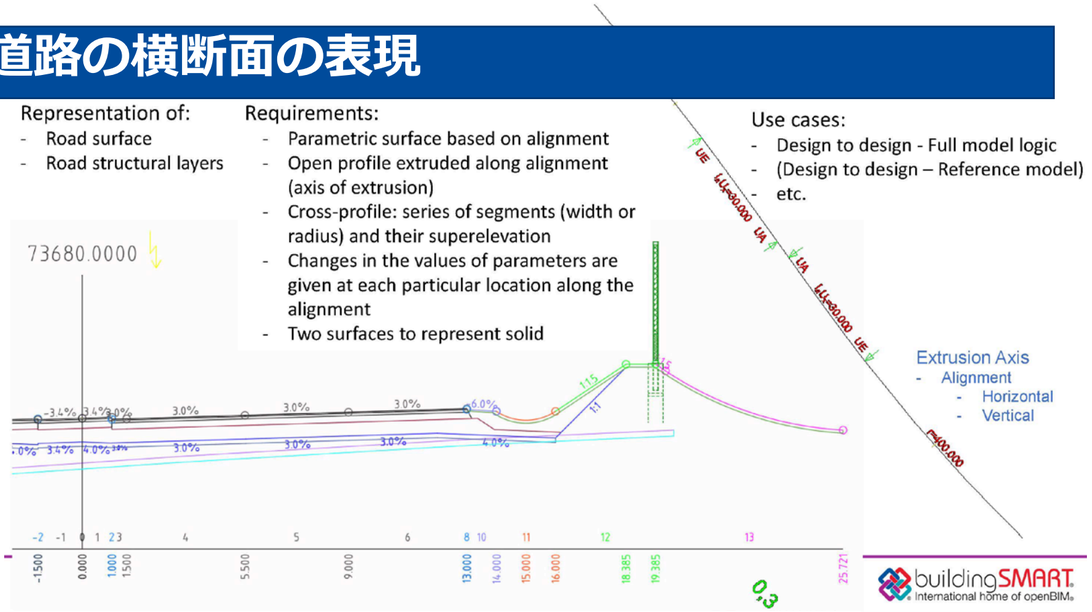
道路の横断面の表現

Representation of:
- Road surface
- Road structural layers

Requirements:
- Parametric surface based on alignment
- Open profile extruded along alignment (axis of extrusion)
- Cross-profile: series of segments (width or radius) and their superelevation
- Changes in the values of parameters are given at each particular location along the alignment
- Two surfaces to represent solid

Use cases:
- Design to design - Full model logic
- (Design to design – Reference model)
- etc.



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IFC-Ports & Waterways

プロジェクト概要

- 港湾分野に関するIFCの開発を行うプロジェクト。
- Haijian Li氏（CCCC）が運営。
- 2017年4月のバルセロナ・サミットで、bSI、CCCC、カーディフ大学でプロジェクトのMOU（覚書）を締結。

期間

- 2018年1月～2020年4月

目標

- 港湾分野におけるIFCの利用場面（ユースケース）を特定する。
- 港湾分野に関するIFC拡張の開発および文書化する。
- 港湾におけるモデル作成のガイドラインの作成する。
- 土木構造物の共通要素についてCommon Schemaプロジェクトと共同作業する。

IFC-Ports & Waterways

■ セッションの要点

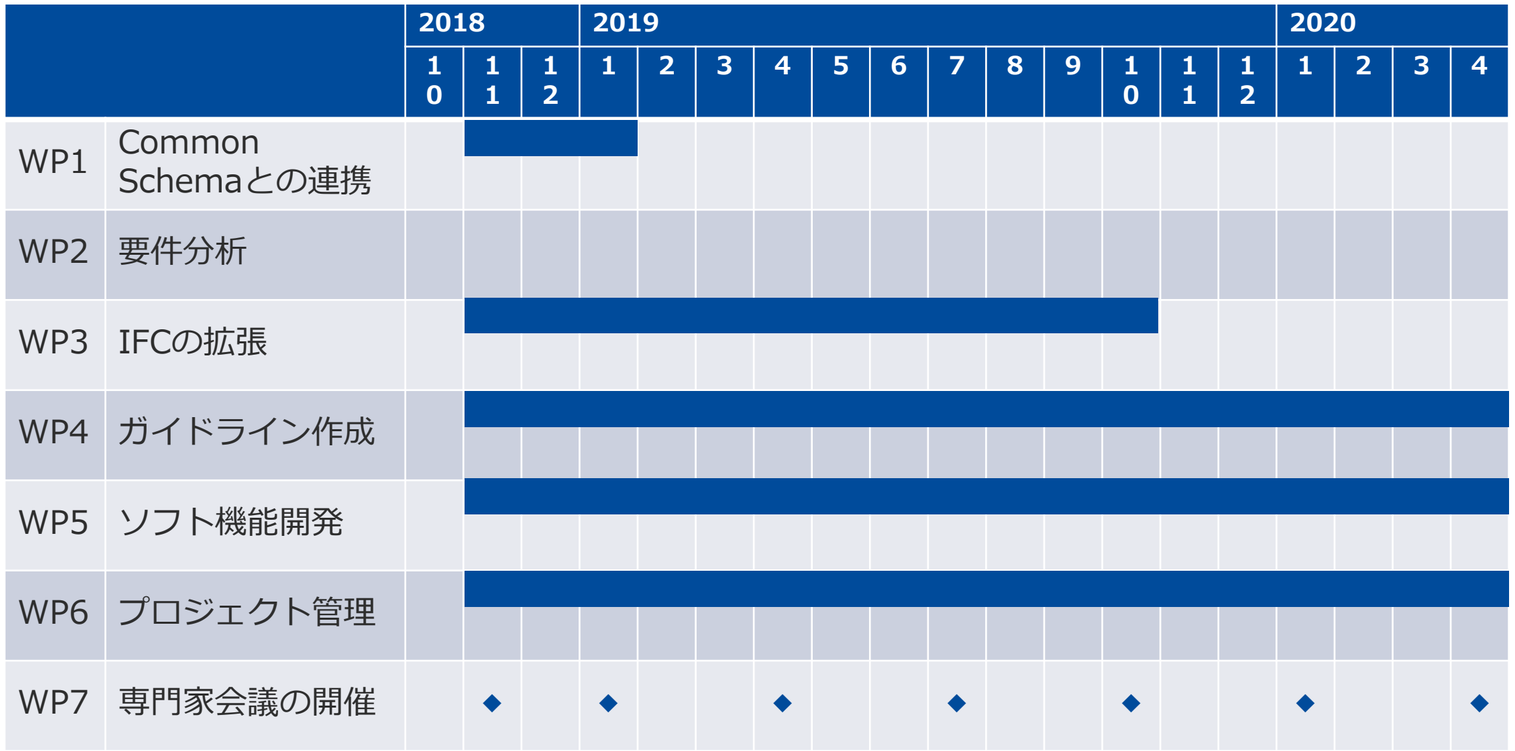
① プロジェクト名称の変更
② 港湾の要件武関レポート（案）の作成
③ ハンドオーバーモデルおよびハンドオーバーモデルのLODを提案

■ 主要資料

港湾の要件分析レポート（案）

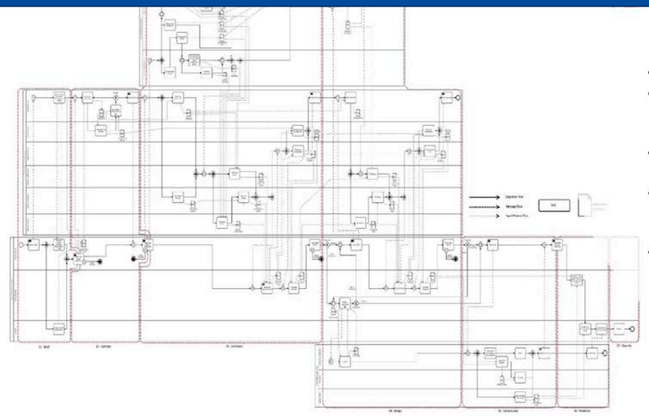
- 分析の方法
- アセット管理要件
- 情報構造
- 空間要件
- 対象範囲の特定
- プロセスマップおよび交換シナリオ
- ユースケース
- 幾何
- モデルビュー定義

■ プロジェクトスケジュール



IFC-Ports & Waterways

プロセスマップ



- Created from domain partner Maps
- 2 Primary Diagrams
  - A Stage Based Outline
  - A Detailed Multi-Actor Process Map
- Stages
  - CIC Stages 0-7 Used
- Actors
  - 6 Service Groups
  - 16 Distinct Actors Identified
- Exchange Scenarios
  - 36 Information Exchanges Identified.
  - 23 In Scope

ユースケース

- 29 Use Cases Identified in Total including:
  - 14 from Overall Architecture
  - 17 from IFC Bridge
- Classified by:
  - Priority – measure of Frequency & Value adding Effect
  - Complexity – measure of IFC implementation Difficulty
- Scope Definition
  - 19 Selected as In Scope (Green)
  - 1 Highlighted as Desired (orange)
  - 9 Discarded as Out Scope for IPH 1.0
- Work Load Clarification
  - 6 Considered Existing Functionality (PH03, PH04, PH05, PH06, PH07, PH10)
  - 2 Defined as Generic (PH18, PH28) therefore are co-ordinated via Common Schema

ID	Name	OA[1]	BR[2]	Priority	Compl
PH01	Initial State Modelling	OA14	BR01	MED	LOW
PH02	Import of Alignment and major Parameters	--	BR02	LOW	LOW
PH03	Visualisation	OA01	BR03	HIGH	LOW
PH04	Coordination & Collision Detection	OA02	BR04	HIGH	LOW
PH05	4D Modelling	OA03	BR05	HIGH	LOW
PH06	Quantity Take Off (5D Modelling)	OA04	BR06	HIGH	LOW
PH07	Progress Monitoring	OA10	BR07	HIGH	LOW
PH08	As-Built vs. As-Planned Comparison	OA11	BR08	HIGH	LOW
PH09	Handover	OA12 OA13	BR09 BR10	HIGH	MED
PH10	Multi-discipline Design Modelling (Reference Model)	OA08b	BR11	HIGH	MED
PH11	Multi-discipline Design Modelling Full Model Logic)	OA08a	BR12	LOW	HIGH
PH12	Structural Analysis	OA05	BR14	MED	MED
PH13	Code Compliance Checking	OA07	BR15	MED	HIGH
PH14	Drawing Generation	OA06	BR16	LOW	HIGH
PH15	Prefabrication & Manufacturing	--	BR17	MED	MED
PH16	Energy & Emissions Analysis	--	--	HIGH	LOW
PH17	Capacity Analysis	--	--	HIGH	LOW
PH18	Geotechnical Design & Analysis	--	--	HIGH	MED
PH19	Master Planning	--	--	HIGH	LOW
PH20	Fluid Mechanics Analysis	--	--	MED	MED
PH21	Mooring Analysis	--	--	MED	MED
PH22	Model Aided Machine Control	--	--	MED	MED
PH23	Wave Impact Analysis			MED	MED
PH24	Navigation Analysis	--	--	MED	MED
PH25	Logistic Planning Simulation	--	--	HIGH	LOW
PH26	Risk Assessment	--	--	MED	MED
PH27	Ship Lock Operation	--	--	MED	LOW
PH28	Dynamic structures and vehicles	--	--	MED	MED
PH29	Digital Twin	--	--	MED	HIGH

分類テーブル

Each table has levels up to four, and main function of the tables are shown as follows

No.	Table	Function
1	**Construction Entity**	**Organizing, storing, retrieving and analyzing model.**
2	**Component and Equipment**	**Classifying and identifying elements within a facility.**
3	Parts	Element parts within a Element.
4	Work Breakdown Structure	Managing project deliverables
5	Project Quantity	Managing project expenditure
6	Project Stage	Identifying and monitoring project schedule
7	Discipline	Identifying specialty involved in the project
8	Product	Identifying product function and its material
9	Organizational Role	Identifying and Managing Responsibility of project organization
10	Personal Role	Identifying and Managing Responsibility of project personal.
11	Property	Describing the characteristics of instances of objects,.

ハンドオーバーモデルのLOD

graphical & non-graphical -- NEW*

- Information granularity – includes graphical & non-graphical two parts.
- An Example – Track beam hand over information granularity definitions -

Type	Information	Properties	L100	L200	L300	Remark
Track Beam	Graphical	Length（m）	●	●	●	
		Height（m）	●	●	●	
		Width（m）	●	●	●	Rectangular section
		Flange Width（m）	●	●	●	T Shape section
		Flange Thickness（m）	●	●	●	T Shape section
		Web Thickness（m）	●	●	●	T Shape section
		Web Height（m）	●	●	●	T Shape section
		Volume（m^3）	●	●	●	
	Non-Graphical	Coding	●	●	●	
		Material	●	●	●	
		Rebar Ratio	○	◎	●	
		Reinforcing information	○	○	●	
		Embedded Parts	○	○	●	
		Construction Method	○	◎	●	In situ or Precast
		Construction Requirement	○	○	●	

● - Must be Included

◎ - Should be included

○ - May be Included

Nominated as World No.1 in large scale infrastructure project

China National BIM standards for Ports and Waterways

IFC-Tunnel

プロジェクト概要

- トンネル分野に関するIFCの開発を行うプロジェクト。
- Philipp Dohmen氏（Amberg）が提案。
- 2017年4月のバルセロナ・サミットにおいて、日本、ドイツ、中国および韓国等の関係者でプロジェクト構想に関するミーティングを実施。2017年6月のITAで、ITAとbSJの共同WGを設置。

期間

- 現在再計画中

目標

- 土木構造物の共通要素についてCommon Schemaプロジェクトと共同作業する
- 既存のIFCのトンネル分野への適用を検証する
- トンネル分野として新たに提案されたIFCスキーマの国際的な合意を構築する
- IFC-Tunnelを早期にアプリケーションでテストする。

International Standards Summit

Düsseldorf（デュッセルドルフ）

2019.3.25 – 2019.3.28

ご清聴ありがとうございました

お問い合わせ

t.aruga@building-smart.jp

プログラム(1/3)

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International Standards Summit
PROGRAM

Tuesday 16th October 2018

Plaza Heisei International Conference Hall & National Museum of Emerging Science and Innovation

2 Chome-2-1 Aomi, Koto, Tokyo 135-0064, Japan

Opening Plenary
International Standards Summit

Welcome / Introduction

9:30 **Summit Introduction:** Richard Kelly *(buildingSMART International)*

9:40 **Welcome from Chief Executive:** Richard Petrie *(Chief Executive, buildingSMART International*

10:10 **Welcome from buildingSMART Japan:** Junnichi Yamashita *(Chairman, buildingSMART Japan)*

10:20 **Welcome from Minister of Land, Infrastructure, Transport and Tourism:** Keiichi Ishii

Future Vision

10:25 **i-Construction: Toward the Revolutionary Improvement of Productivity in Construction:** Mr Masafumi Mori *(Vice-Minister of Land, Infrastructure, Transport and Tourism)*

10:55 **Break**

11:20 **openBIM throughout the lifecycle of a building:** Wolfgang Hass *(Siemens Schweiz AG)*

11:50 **Japanese Chapters response to the growing digital challenge:** Mr Kazumi Yajima *(Kajima Corporation)*

12:20 **Proof of Concept (PoC) for use of bSDD:** Knut Mathisen *(GS1 Norway)* Aleksander Bjaaland *(Holte)* Halvard Gavelstad *(Norsk Byggtjeneste)*

13:00 **Lunch at the Media Hall**

Recent Innovations

14:00 **3D Underground Model** Mr Hiro Shima *(OYO Corporation)*

14:30 **buildingSMART Norway concept for Livinglab: X Hackathon:** Anstein Skinnarland / Anne Mevatne / Sigve Pettersen

14:50 **JR-EAST's Strategy for BIM:** Takaya Nagai *(East Japan Railway Company)*

15:20 **Break**

16:40 **Roadmaps**
Standards Roadmaps: (Panel Discussion)

17:40 **Chairman's Address**
Patrick MacLeamy *(buildingSMART International Chairman)*

18:00 **Group photo**

19:30 **Welcome & Awards Dinner**

Dai-Chi Hotel Tokyo - Welcome & Awards Dinner
1 Chome-2-6 Shinbashi,
Minato,
Tokyo 105-8621,
Japan

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International Standards Summit
PROGRAM

Friday 19th October 2018

Akasaka Intercity AIR

1 Chome-8-1 Akasaka, Minato, Tokyo 107-0052, Japan

Closing Plenary
of the International Standards Summit

buildingSMART's International Standards Summit conclusions

9:00 **Richard Kelly**
Rooms and groups' actions arising, resolutions and future workplans
ISG: Jeffrey Ouellette
IFC Strategy Development: Greg Schleusner
Infra Room: Tiina Perttula
Product Room: Roger Grant
Regulatory Room: Øivind Rooth
Construction Room: Ken Endo
Airport Room: Alex Worp

10:40 **Building Room:** David Ivey / John Mitchell

10:50 **Railway Room:** Winfried Stix

11:10 **Professional Certification:** Sarah Merz

11:30 **IDBE Update:** Jim Plume / Carsten Roensdorf
BIM basic IDM: Mathijs Natrop

11:50 **Workflow set up to allow openBIM and GIS alignment:** John Mitchell
Closing Address: Richard Petrie

openBIM Japan
Industry Afternoon

Akasaka Intercity AIR: 13:00 – 18:00

13:00 **The Status of BIM Adoption in the United States:** James Vandezande, HOK, buildingSMART USA

14:00 **Introduction to buildingSMART Professional Certification Program and Lessons Learned from German Chapter:** Sarah Merz, DEUBIM, buildingSMART Germany

14:40 **buildingSMART Infrastructure Room:** Christophe Castaing, buildingSMART France

15:00 **IDBE, interoperability standards for geospatial BIM:** Jim Plume, buildingSMART Australasia

15:30 **Break**

15:45 **i-Construction: Toward the Revolutionary Improvement of Productivity in Construction:** Daisuke Nasu, Ministry of Land, Infrastructure, Transport and Tourism

16:15 **Domestic and International BIM/CIM Collaboration works in Penta-Ocean Construction Co. Ltd:** Tsuyoshi Kotoura, PENTA-OCEAN CONSTRUCTION CO.,LTD
Importance of geological and geotechnical subsurface model for lifecycle management of infrastructure: Syoichi Nishiyama, OYO CORPORATION

16:45 **Improving Productivity of Public Building Project by utilizing BIM (TBC):** Tsuyoshi Yamada, Ministry of Land, Infrastructure, Transport and Tourism

17:15 **Application for building confirmation by digital data:** Kensuke Yasui, NIKKEN SEKKEI LTD

buildingSMART International remains at your disposal,
should you have any questions concerning your visit : contact@buildingsmart.org / sheila.kerailum@buildingsmart.org

プログラム(2/3)

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International Standards Summit
PROGRAM

Wednesday 17th October 2018

Plaza Heisei International Conference Hall & National Museum of Emerging Science and Innovation

2 Chome-2-1 Aomi, Koto, Tokyo 135-0064, Japan

		Technical Focus Rooms			User Focus Rooms				
		Building Room	Infrastructure Room	Product Room	Regulatory Room	Construction Room	Airport Room	Railway Room	bSI General
Room		Mercury/Mars	Innovation Hall	Jupiter	Room 2	Uranus	Room 3	Saturn	Venus
08:30		Registration – Morning welcome							
09:00	Session 1	BR1 Opening plenary	IR1 Opening session	PR1 Opening session	RR1 *Steering Committee **(Steering Committee Members only)**	CR1 Opening session 'Trend of BIM in construction'	AR1 Opening plenary & feedback on roadmap	RWR1 Opening plenary	bG1 Professional Certification
10:30		Break							
11:00	Session 2	BR2 Roadmap for the Building Room	IR2 Joint session IR/RWR Common Schema Innovation Hall	PR2 Shared Terminology - Standards, ISO, CEN and other national standards	RR2 Seminar	CR2 Case Study of BIM in Construction Phase (1)	AR2 Common Data Environment (CDE) functional requirements	RWR2 Joint session IR/RWR Common Schema Innovation Hall	bG2 bSI Awards Program
13:00		Lunch							
14:00	Session 3	BR3 LOX Roundtable	IR3 IFC Bridge Expert Panel	PR3 Shared Terminology - panel on Libraries, Tools and Procedures	RR3 Seminar	CR3 Case Study of BIM in Construction Phase (2)	AR3 Missing IFC assets classes	RWR3 IFC Rail Project Progress Report	bG3
15:30		Break							
16:15	Session 4	BR4 Joint session IR/PR/RWR Open Information Exchange on Projects Innovation Hall	IR4 Joint session BR/PR/RWR Open Information Exchange on Projects Innovation Hall	PR4 Joint session BR/IR/RWR Open Information Exchange on Projects Innovation Hall	RR4 Auto Code checking Application Form MVD	CR4 Use of openBIM for construction	AR4	RWR4 Joint session BR/IR/PR Open Information Exchange on Projects Innovation Hall	bG4 Dfma and Lean Use Case
18:00		Close							

* Members & Chapter Representatives working session, this is closed to non-members of buildingSMART International

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International Standards Summit
PROGRAM

Thursday 18th October 2018

Plaza Heisei International Conference Hall & National Museum of Emerging Science and Innovation

2 Chome-2-1 Aomi, Koto, Tokyo 135-0064, Japan

		Technical Focus Rooms			User Focus Rooms				
		Building Room	Infrastructure Room	Product Room	Regulatory Room	Construction Room	Airport Room	Railway Room	bSI General
Room		Mercury/Mars	Innovation Hall	Jupiter	Room 2	Uranus	Room 3	Saturn	Venus
08:30		Morning welcome							
09:00	Session 5	BR5 IDM Model Setup	IR5 IFC Ports & Harbors Expert Panel	PR5 Content Quality Management Procedures **(Working Group)**	RR5 E-submission guidelines	CR5 Use of openBIM for construction	AR5 Conclusions Shared session	RWR5 IFC Rail Project Uses Cases	bG5 Report from chapters and members, how to engage and contribute
10:30		Break							
11:00	Session 6	BR6 IFC for Landscapes Sites and Urban Planning	IR6 IFC Road Expert Panel	PR6 Product Data Templates **(Working Group)**	RR6 Regulatory Room Road Map	CR6 Introduction to Activity of bSJapan 'MEP and Environment Sub Committee'	AR6 IFC-Doc Overview & Explanation	RWR6 IFC Rail Project Domain Discussion **(Working Session)**	bG6
13:00		Lunch							
14:00	Session 7	BR7 Projects and Use Case Presentations	IR7 What next? Workshop beyond IFC5	PR7 Classification in Models **(Working Group)**	RR7	CR7 Use of openBIM for construction	AR7 Model view definition (MVD) for GIS	RWR7 IFC Rail Project Inter-Domain Discussion **(Working Session)**	bG7 *bSI Strategy IFC & bSDD **(Members & Chapter Representatives only)**
15:30		Break							
16:15	Session 8	BR8 Closing session	IR8 Closing session Summary & Resolutions	PR8 Closing Session	RR8	CR8 Closing Plenary: Summarize & Proposal for Resolution	AR8 Closing Session	RWR8 Closing Plenary: Summarize & Proposal for Resolution	bG8 *bSI Strategy IFC & bSDD **(Members & Chapter Representatives only)**
18:00		Close							

* Members & Chapter Representatives working session, this is closed to non-members of buildingSMART International

プログラム(3/3)

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International Standards Summit
PROGRAM

Meeting descriptions for the 17th and 18th of October

This list gives a brief description of the content of each working session to help you make your attendance selection.
If you require more information, please contact contact@buildingsmart.org (indicating the room concerned)

Building Room meetings Contact: Ricardo Bittini

BR1 Opening plenary

BR2 Roadmap for Building Room – The Building Room Steering Committee will present their thoughts on the need for a strategic roadmap for the Building Room to engage in activities that meets the Industry needs. All participants are invited in to an open discussion to share their thoughts and insights from the industry as input to this work.

BR3 LOX Roundtable : The final report of the LOX will be presented, and participants are invited in to a Roundtable – session where input, feedback and experiences are shared.

BR4 Open Information Exchange on Projects (joint with BR/IR/PR/RWR) - identification of information exchange needs and requirements on representative use cases for energy modelling of buildings, bridge design to construction and rail systems modelling and how bSI standards and applications are evolving to meet the wide range of requirements represented by current needs for, and uses of, bSI standards.

BR5 IDM Model Setup

BR6 IFC for Landscape, Sites and Urban Planning. This is a new project that will be presented, and objectives and expectations will be set for the project. Interested parties are invited, and there will be a call for participation in the further work.

BR7 Projects and Use Case Presentations: There will be a presentation of different projects and use cases.

BR8 Closing session: Summary of the work and input from the sessions, and the Steering Committee will discuss their further plans for the work in the Building Room.

Infrastructure Room meetings Contact: Christophe Castaing

IR1 Opening session: introduction, Summit program and InfraRoom Steering Committee election results 2018.

IR2 IFC Common Schema (joint session RWR): progress update on Sprint 1 (Spatial Structure, Geotechnics and Earthworks); Rail Project update.

IR3 IFC Bridge Expert Panel: presentation of draft schema extension and request for Expert feedback.

IR4 Open Information Exchange on Projects (joint with BR/IR/PR/RWR) - identification of information exchange needs and requirements on representative use cases for energy modelling of buildings, bridge design to construction and rail systems modelling and how bSI standards and applications are evolving to meet the wide range of requirements represented by current needs for, and uses of, bSI standards.

IR5 IFC Ports & Harbors: presentation of draft Requirement Analysis report including in scope use cases, Process map and exchange requirements, and proposed MVDs; opportunity for feedback.

IR6 IFC Road Expert Panel: presentation of Phase 1 Deliverable Requirement analysis report (draft for review), which Asset management requirements, scope statement and IFC Road use cases. Request for Expert Feedback.

IR7 "What Next?" Workshop: InfraRoom community discussion, thinking beyond current projects (IFC5) to what needs to be addressed over the next 5 years.

IR8 Closing session: Summary & Resolutions

Product Room meetings Contact: Roger Grant

PR1 Opening session: review previous meetings, active resolutions and status of bSDD planning, deployment and utilization, new project proposals review and discussion.

PR2 Shared Terminology - Standards, Libraries, Tools and Procedures - Review and discussion of related standards projects at CEN and ISO, review and discussion of tools for working with terminology, utilization of IFC entities and properties in bSDD and procedures for use, translation, updating, presentation on efforts underway in Norway and overviews from other initiatives (participation TBD) followed by discussion of how collaborate on efforts and share content and procedures.

PR3 Shared Terminology - Standards, Libraries, Tools and Procedures (Cont'd.)

PR4 Open Information Exchange on Projects (joint with BR/IR/PR/RWR) - identification of information exchange needs and requirements on representative use cases for energy modelling of buildings, bridge design to construction and rail systems modelling and how bSI standards and applications are evolving to meet the wide range of requirements represented by current needs for, and uses of, bSI standards.

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International Standards Summit
PROGRAM

Meeting descriptions for the 17th and 18th of October

This list gives a brief description of the content of each working session to help you make your attendance selection.
If you require more information, please contact contact@buildingsmart.org (indicating the room concerned)

PR5 Content and Quality Management Procedures WG Workshop - update on development of methods and approaches for creating and managing quality of content, coordination with related ISO and CEN standards, representatives of current bSDD Agents sharing their procedures/experiences.

PR6 Product Data Templates WG Status and Working Session - update on activity and discussion of pilot testing with s/w vendors and product manufacturers, review of draft standard prior to submission.

PR7 Classification in Models WG Workshop - update on deployment of classifications systems including ETIM, OmniClass, UniClass and eCl@ss and how to develop standard for use with OpenBIM models.

PR8 Library Exchange Standard (LEXS) WG Workshop and Closing Session - representatives of the joint WG with InfraRoom will update on status, plans, open issues for coordination with other Product Room Working Groups and closing plenary of Product Room to address technical and implementation issues, resolutions.

Regulatory Room meetings Contact: Øivind Rooth

RR1 Steering Committee Meeting
RR2 Seminar
RR3 Seminar
RR4 Auto code checking Application Form MVD
RR5 E-submission guidelines
RR6 Regulatory Room Road map
RR7
RR8

bSI General meetings Contact: Richard Kelly

bG1 Professional Certification
bG2 bSI Awards Program
bG3
bG4 Dfma and Lean Use Case
bG5 Report from chapter and members
bG6
bG7 bSDD & IFC
bG8 bSDD & IFC

Construction Room meetings Contact: Ken Endo

CR1 Opening session "Trend of BIM in Construction"
CR2 Case Study of BIM in Construction Phase (1)
CR3 Case Study of BIM in Construction Phase (2)
CR4 Use of openBIM for construction
CR5 Use of openBIM for construction
CR6 Introduction to Activity of bSJapan "MEP a Environment Subcommittee"
CR7 Use of openBIM for construction
CR8 Closing Plenary: Summarize & Proposal for Resolution

Airport Room Contact: Alex Worp, Rob Roef – *airport@buildingsmart.org*

AR1 Opening Plenary & Feedback on Roadmap

AR2 Common Data Environment (CDE) Functional Requirements - During the Spring 2018 Paris meeting, the AR team gathered a list of desired CDE requirements, regardless of current software solutions deemed important. All 24 requirements were captured on a flip board, with open standards at the top of the list. The next step is to condense this "wish list" to 10 primary CDE functional requirements for Airport operations.

AR3 Missing IFC assets classes - Currently, the IFC schema does not contain every Airport object class (entity), and instead uses a generic (proxy) object for missing entities. This temporary substitution is causing standardization issues for the receiver of an exported IFC file from a BIM software application (important to Airports today and must be addressed to expand the use of IFC).

AR4 Participate on other joined sessions - Every attendee is required to visit other Room's sessions.

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International Standards Summit
PROGRAM

Meeting descriptions for the 17th and 18th of October

This list gives a brief description of the content of each working session to help you make your attendance selection.
If you require more information, please contact contact@buildingsmart.org (indicating the room concerned)

AR5 Conclusions Wednesday shared sessions: Feedback on the sessions last day and liaisons.

AR6 IFC-Doc Overview & Explanation: IfcDoc is a free tool created by Tim Chipman that gives the opportunity to create a model view definition that is corresponding to your needs. This tool can also validate an existing file based on a predefined MVD.

AR7 Model view definition (MVD) for GIS: GIS does not need all the data that can exist in an IFC file. According to the different products in GIS, different geometry and attributes need to be extracted from a model. Therefore, MVDs that correspond to the different products related to Safety, Space management etc. have been created, in order to give the opportunity to the users to immediately export the IFC file with only the needed information in it.

AR8 Closing Session: Conclusions

Railway Room

Contact: Winfried Stix, Suo Ning, Christian Erismann

RWR1 Opening Plenary:
Opening the Session
IFC Rail project: explanation of the project to visitors
Steering Committee Spotlight
Domain progress report

RWR2 Joint Session IR/RWR Common Schema:
Geotechnical concepts – update
Earthworks - update
Spatial Structure - report on outstanding issues
Drainage systems – use case report
Alignment Extensions – including cant (railways) and skew (bridge transitions)
Railway Equipment - update

RWR3 IFC Rail Project Progress Report:
Report from Rome Workshop
IFC-Rail Tutorial Update
Common Schema Rail and Shared Elements: Challenges, Resources, Actual status
EXPRESS2UML

RWR4 Open Information Exchange on Projects (joint with BR/IR/PR/RWR): identification of information exchange needs and requirements on representative use cases for energy modelling of buildings, bridge design to construction and rail systems modelling and how bSI standards and applications are evolving to meet the wide range of requirements represented by current needs for, and uses of, bSI standards.

RWR5 IFC Rail Project Use Cases:
Generic use cases
Alignment
Overlapping use cases with EULYNX
Local data requirements vs. International standard

RWR6 IFC Rail Project Domain Discussion:
IFC Rail Domain Session: (working groups, no presentations)
data requirements consolidation
collaboration process within the domain
technical team splits to each domain

RWR7 IFC Rail Project:
IFC Rail Project Sessions: (working groups, no presentations)
domain discussion
Information flow in between domain
Collaboration process for common schema
Collaboration process for shared elements
Status of Resources

RWR8 Closing Plenary: Summarize & Proposal for Resolution
Discussion on Resolution
Closing Plenary: Summarize
Railway Room Resolution for the plenary session on Friday

IR1 – OPENING SESSION RESOLUTIONS

- The InfraRoom thanks the Japan Chapter for their excellent organistation of the Tokyo Summit 2018.
- The InfraRoom welcomes the new InfraRoom Steering Committee members and administrator.
- The InfraRoom sees the importance of asset management and recommends the establishment of a working group in this area.

- InfraRoomは、2018年の東京サミットの優れた組織について、日本支部に感謝する。
- InfraRoomは、新しいInfraRoom運営委員会のメンバーと管理者を歓迎する。
- InfraRoomは、資産管理の重要性を認識し、この分野におけるワーキンググループの設立を薦める。

IR2 Joint Session IR/RWR Common Schema Resolutions

- The InfraRoom recognises the progress made in the Common Schema project up to this point and applauds the clarity of the presentations.
- The InfraRoom welcomes the participation of the Rail Room in this joint session and the many constructive comments and questions raised.
- The Joint Session resolves to create a category in the bSI Forum as a vehicle to permit open feedback and discussion on Sprint task deliverables during Common Schema execution in addition to the existing feedback channels.
- The Joint Session recommends that the Common Schema project investigate further systematic ways (such as those being used in the Rail Project) to identify common concepts and avoid duplication, including expectations around deliverables.

- InfraRoomは、現時点のコモンスキーマ・プロジェクトの進捗状況を認識し、プレゼンテーションの明快さを賞賛します。
- InfraRoomは、今回のジョイント・セッションにおけるRail Roomの参加と建設的なコメントや質問を歓迎する。
- ジョイント・セッションは、コモンスキーマの実施中、先行作業の成果物について開かれたフィードバックと議論を可能にする手段として、既存のフィードバックの方法に加えてbSIフォーラムにカテゴリを作成することを決定する。
- ジョイント・セッションは、成果物に関する期待を含めて、一般的な概念の特定と重複の回避のため、鉄道プロジェクトで用いられているような体系的な方法を調査することを推奨する。

IR3 IFC Bridge Resolutions

- To recognize the work done by the project team for the Conceptual Model and the Draft Schema extension. (approval in progress)
- To encourage the review of the Draft Schema Extension by the international community and the provision of feedback to the project team.
- To encourage the software vendors to participate in the effort in the deployment process
- To endorse the proposal to postpone the completion to March 2019 and are open to seek funding the IFC Bridge project track 2.

- 概念モデルと拡張スキーマ（草案）について、プロジェクトチームが行った作業を認識すること。（承認中）
- 各国の関係団体による拡張スキーマ（草案）のレビューと、プロジェクトチームへのフィードバックの提供を奨励する。
- ソフトウェアベンダーにデプロイメント（展開）・プロセスの取り組みを促す
- 2019年3月に完了を延期する提案を是認し、IFC-Bridgeプロジェクトの第2段階への資金提供を求める。

IR5 – Ports & Waterways Expert Panel Resolutions

- The InfraRoom welcomes the Draft Ports & Waterways Requirements Analysis Report & encourages the review & comment of the draft Requirements Analysis Report, submitted by end of November 2018.
- The InfraRoom encourages domain experts to join the P&W Expert Panel, next consultation scheduled approx. 3 weeks after the summit.
- The InfraRoom calls for further participation in relation to Taxonomy & properties of Ports & Waterways objects, send to: BradleyA@Cardiff.ac.uk & Infrastructure@Buildingsmart.org
- The InfraRoom resolves to develop of a protocol/framework relating to the continued development of IFC reference implementation tools for new extensions together with technical room.
- The InfraRoom acknowledges that a reconciliation of use cases is required over InfraRoom projects and the wider buildingSMART environment to aid in standardized development.

- InfraRoomは、P&Wの要件分析レポート（草案）を受け入れ、2018年11月末に提出される要件分析レポート（草案）へのレビューとコメントを奨励します。
- InfraRoomは、サミットの3週間後に予定されているP＆W Expert Panelに港湾分野の専門家が参加することを奨励する。
- InfraRoomは、P&WのオブジェクトのTaxonomyおよびpropertyに関連して、さらに参加者を求める。（参加希望）BradleyA@Cardiff.ac.ukまたはInfrastructure@Buildingsmart.org
- InfraRoomは、テクニカルルームと、新しい拡張機能用のIFC参照実装ツールの継続開発に関するプロトコル/フレームワークの作成を決定する。
- InfraRoomは、標準化された開発を支援するInfraRoomのプロジェクトおよび広範囲のbuildingSMARTの環境において必要とされるユースケースの調整が必要であることを認めている。

IR6 IFC Road Resolutions

- InfraRoom welcomes progress of the requirement analysis report for phase 1 and encourages domain experts to provide their feedback from the expert panel by the end of October 2018.
- Final requirement analysis report for Phase 1 will be delivered by the end of November 2018.
- InfraRoom encourages new stakeholders who are interested in the IfcRoad project to participate in Phase 2 for IfcRoad.

- InfraRoomは、フェーズ1の要件分析レポートの進捗状況を認め、2018年10月までにExpert Panelからフィードバックを提供するよう道路分野の専門家に奨励する。
- フェーズ1の要件分析レポート（最終）は、2018年11月末までに提供する。
- InfraRoomは、IFC-Roadプロジェクトに関心をもつ新しい関係者が、IFC-Roadのフェーズ2に参加するよう奨励する。

IR7 Whats next? Resolutions

- The InfraRoom Steering Committee welcomes the input from the community towards the development of the Roadmap through the “what’s next” workshop session.
- The InfraRoom Steering Committee will actively pursue the suggestions, incorporate them in the Roadmap and feedback the conclusions to the Room.
- The InfraRoom encourages the Steering Committee to progress the establishment of the IFC Tunnel project and issue a call for participation.

- InfraRoom運営委員会は、「what’s next」と題したワークショップで各グループが検討したロードマップの開発に向けた意見を歓迎する。
- InfraRoom運営委員会は、提案を積極的に検討し、ロードマップの作成に組み込み、その結論をRoomにフィードバックする。
- InfraRoomは、運営委員会がIFCトンネルプロジェクトの設立を進め、参加を呼びかけるよう促す。