buildingSMART International

Activity Proposal

Project Name:

ISO41000 FMBIM Protocol, IDS and CDE

AKA "Facilities Management and openBIM"

General Information

Room Governance:

Building Room

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Table of Contents

Note: This TOC is an automated reference. Please update by clicking on the table and selecting "Update Table…" from the pulldown menu exposed when the table is selected. Choose option to "Update Entire Table" which will update all page numbers and section titles.

1   GLOSSARY

Body	Abbreviation	Summary
buildingSMART International	bSI	The organization that creates and owns the IFC standards.
Expert Group*	EP	Brings in expert advice during the project, on a voluntary basis, during an average four meetings per year.
Building Room*	BR	Open forum within bSI responsible for the Building domain and all developments on IFC within this domain.
Building Room Project Steering Committee*	BRPSC	The body within the Building Room responsible for managing the Building Room projects, meets once a month, and Project Lead presents the Project Dashboard during this meeting.
Building Room Steering Committee*	BRSC	Steers the Building Room and is responsible for setting out strategy, managing initiatives and liaison with other Rooms and bodies.
International Standardization Organization	ISO	Please follow this link for more information: http://www.iso.org/iso/home.html
Open Geospatial Consortium	OGC	Please follow this link for more information: http://www.opengeospatial.org/
Project Leader	PL	Responsible for managing the project and ensures the project is delivered within budget and on time.
Project Team*	PT	Executes a project based on a project plan and delivers the results according to plan.
Standards Committee**	SC	The senior governance body within bSI overseeing the standards process. It will comprise representatives from members and chapters.
Standards Committee Executive**	SCE	Establishes and manages the bSI standards process and addresses procedural and programmatic issues.
Standards Committee Technical Executive**	SCTE	Provides technical advice to the SC and SCE the bSI standards process and addresses project technical issues.
Facility Management	FM	As defined by ISO 41000 series
International Facility Management Association	IFMA	Represents the global FM industry
Facility Management Nederland	FMN	Represents the Dutch FM Industry
Public Real Estate Network	PuRE-Net	Represents the European national real estate agencies and ministries
ISO Technical Committee 267	ISO TC267	Represents the global FM standards community
Zurich University of Applied Science – FM	ZHAW-FM	Represents the international academic FMBIM network

Architecture, Construction, Engineering	ACE	The life cycle phases and industries delivering the built environment
Office Furniture Modeling Language	OFML	IBA standard for independent semantic modelling of furniture in 2D and 3D objects. Managed by Eastern Graphics.
Computer-Aided FM	CAFM	Software for FM. Similar to IWMS and FMIS.

* For more information please see the buildingSMART International Standards Process. This process describes the manner in which standards and other technical work is created and governed within buildingSMART International. It is available online: http://buildingsmart.org/standards/standards-process/

2   EXECUTIVE SUMMARY

For the past decade, the global facility management (FM) industry has been opening up the BIM-box and discovering the potential of ACE/FM-interoperability. The ACE industry became aware FM is much more than maintenance of built assets. Facility managers (FMs) purchase about € 450 billion globally and manage about 7.2 billion square meters (77.5bn square feet). In 2018 FM professionals delivered the ISO 41000 series-defining FM and started connecting it to ISO 55000 and ISO 19650. However, the more industries converged, the more pronounced the lack of interoperability of data became. Users of buildings, represented by Facility Managers, have had to adjust their information needs to the requirements of End-Users and their organisational goals. For FM the built environment is just another facility delivering 'Room for Business'. To all it became apparent real estate value increases when users of the built environment can help to keep the digital twin up to date. The FM industry discovered having available real-time information on the status of built assets, could enormously decrease their failure costs and simplify service processes. It appeared ACE and FM do not use a shared protocol, IDS and Common Data Environment. Making automation of the revision of data and geometry, during the use-phase of the life cycle of the built environment, close to impossible. It explains the lack of adoption of BIM by the FM industry. Hence the 'FM Room Initiative'.

The Dutch FM association FMN started two projects, 'FMBIM Protocol' and 'BIM for FMIS', addressing the problem '**How can an ISO 41000-series based FMBIM Protocol and IDS help create automation of the revision of data and geometry in a CDE, for and during the use-phase of the life cycle of the built environment?**'. A Project Team of international FM professionals and software providers was formed, and the connection with buildingSMART Netherlands was established. The global market was invited to deliver their input. Based on this pro-active and open consultation and having received the endorsement of new Project Team members, IFMA, PuRE-Net, Microsoft, ISO TC 267, ZHAW-FM, it was proposed to buildingSMART International to install an 'FM Room' in line with the buildingSMART International vision, their Technical Roadmap and Digital Twin position paper. Based on its governance model bSI and the BRSC supported the proposal and expressed its commitment to the FM industry. It was suggested and communicated with the SCE and agreed by the BRSC to first start an Activity Proposal to the Building Room. If the scale of the FM plan and the commitment to deliver against it grows beyond the size of a single project plan, then the SCE will be consulted again as to whether an FM Room should be formed.

This Activity Proposal starts a process that strongly increases the Industrial Symbiosis of the FM and ACE industries. The objectives of this first project, to be created and delivered in 2021, are:

1. Representing the FM industry in developing openBIM and the ecosystem of digital twins.
2. Developing an FMBIM Protocol and Information Delivery Specification based on the ISO41000 series that will make automation of handover/transfer and revision of data more accessible for FM.
3. Deliver requirements for an AECO/FM Common Data Environment that will increase real estate value, bring down FM failure costs and simplify FM service processes.

3   BACKGROUND

3.1   HISTORY

In 2017 the Dutch FM association FMN started two working groups: '*ILS for FMIS*' (IDS) and '*FMBIM Protocol*' *(IR)*. Based on its '*User Agenda for Technology 2025*' (Download) the team started collaborating with the Dutch government in the DigiDealGO. The purpose was informing Dutch FM professionals on openBIM developments and its potential for application in FM practices. Software providers Planon, TOPdesk, Ultimo, Spacewell, Prequest and Ibis wrote a whitepaper addressing the need for an IDS for FM to minimise loss of data during the handover from construction projects to use processes. The group delivered two whitepapers that can be downloaded HERE or by sending an e-mail to fred@smartwpi.com

ISO 41001:2018 (ISO/TC 267) defines FM as "*Organisational function which integrates people, place and process within the built environment, with the purpose of improving the quality of life of people and the productivity of the core business.*" Working Group 6 focuses on technology and BIM. In 2018 collaboration with ISO 55001 (ISO/TC 251) was established. The video 'BIM, BAM, BOOM' discusses Building Operations and addresses the net present value of operating and using a building. The Dutch NFC Index Cooperative has calculated using an office workplace of 20 rentable m2 costs about € 500 p/yr/m2 on FM-costs only. buildingSMART International (bSI) developed towards FM. The benefits of openBIM for the practical use and purpose of delivered buildings, FM, became recognised by bSI as part of the next step towards a Digital Twin of the Built Environment. It now became evident to connect ISO 19650 (TC 059) and CEN/TC 442 with the other two ISO standards. The paper 'Enabling an Ecosystem of Digital Twins' underlines the growing need for industrial symbiosis and creation of an 'FMBIM Protocol' based on the ISO 41000-series and aligned with the openBIM developments in the AEC industries.

The global FM association IFMA (23000 members) and its IFMA Technology Community also address the application of BIM for FM. IFMA Fellow Paul Teicholz was one of the first to promote the use and ROI of BIM for FM. IFMA has many chapters across the world that collaborate with buildingSMART chapters. IFMA ITC has a BIM Focus Group and recently initiated the Built Environment Technology Alliance. The global furniture industry uses open OFML-standard for a catalogue of 3D-furniture products. Based on OFML EasternGraphics developed a Revit-plugin to allow for including furniture in BIM. Many other FM-related industries use similar commercial standards.

In Europe, many members of the European Public Real Estate Network of all national real estate agencies and ministries included the mandatory prescription of openBIM in its tenders. Many EuroFM members also discussed BIM4FM. German GEFMA addressed the use of BIM in a whitepaper. CAFM RING members collaborate with buildingSMART Germany. eTask owner Klaus Aengenvoort recently presented his personal view on a potential FMBIM to bSI. In Italy Minnucci Associates, member of buildingSMART Italia, recently won an award with national railway company RFI. Websites www.ibimi.it and www.bimaim.com show many great examples of BIM. Also, in Switzerland an FM Room initiative has been started. buildingSMART Singapore works with an Open CDE, and many other countries outside Europe have taken initiatives to connect FM with ACE industries using openBIM as an integrator. Microsoft, pom+, BuildingMinds and RICS include BIM in Azure using a Digital Building Lifecycle model. See www.ibpdi.org for more information.

3.2 OPPORTUNITY & INDUSTRY NEED

Opportunity Statement

How can an ISO 41000-series based FMBIM Protocol and IDS help create automation of the revision of data and geometry in a CDE, for and during the use-phase of the life cycle of the built environment?'

Acting as an example of what FMs need, we share this video by NBS showing the potential of designing a Digital Twin for the FM-service Business Catering. Building assets like walls and doors were modelled at similar detailed levels as the assets for practical use by End Users like tables, chairs, and soap dispensers. The video helps FMs understand that when changing the menu of a restaurant, one can virtually adapt the necessary kitchen equipment to deliver that menu, and check whether the fire rating of the wall next to that equipment should change. Given the right protocol, IDS and CDE similar videos can be made for the use of BIM for cleaning, workplace management, meeting room equipment, home offices, and many more products and services in FM.

Minimalization of the costs for using a building is an essential driver for FMs. Because of missing or inadequate actual and correct data of the built environment they work with, FMs have to deal with avoidable failure costs. Professionals estimate these costs at max 15% p/y per workplace (€ 150 p/yr/m2, based on NFC Index). Like the construction industry, FM providers have developed profitable products and services to manage these failure costs. The need for a CDE and Single Source of Truth integrating construction and FM information to facilitate End User objectives, while minimising failure costs has become evident. Many associations, software companies and professionals in FM have already embraced the strategic benefits of BIM for their industry, products, and operations. Many (public) tenders already include FM-related requirements. A Digital Twin based on openBIM could eventually complement FM-related software systems and help minimise FMs failure costs. But only if we use the same Protocol and IDS to connect our information ecosystems based on the ISO 41000-series.

In public procurement, openBIM has become mandatory in many countries already. The application for maintenance has become evident. Many PuRE-Net members, national real estate agencies and ministries, are currently discovering the benefits of using BIM in the communications with their clients. Many universities and public health care organizations also already have implemented BIM for space management and asset management. Developing ISO 41000-based FMBIM Protocol, IDS, and CDE could be beneficial to a public organization in setting their long-term roadmap.

The IT Community of the International Facility Management Association forms the portal to FMBIM knowledge. At a global level, IFMA has affiliations with these organizations and partnerships with the USA General Services Administration and the global association of real estate valuers, RICS. Here are some of the documents explaining opportunities and needs:

- https://it.ifma.org/wp-content/uploads/2020/08/Digital-Transformation-Article.pdf
- https://it.ifma.org/itc-resources/
- https://it.ifma.org/wp-content/uploads/2019/04/BIM-FM-Consortium-BIM-Guide-v2_1.pdf

Microsoft's internal Global Real Estate unit decided to invest in the use of BIM for their real estate. Director Salla Eckhardt wrote several 'Digital Building Lifecycle' articles on it that can be found HERE. It is to be expected many other workplace managers, corporate real estate manager and facility managers will follow the example set by Microsoft.

Born and raised in Africa and currently teaching in Switzerland Dr Simon Ashworth has delivered his PhD research on the opportunities and needs for the implementation of FMBIM. Together with many other international academics united in EuroFM Mr Ashworth has been researching and presenting the BIM for FM opportunities for many years. His research papers can be found on Researchgate. A video, including opportunities and needs discovered by Dr Simon Ashworth, can be found HERE.

The ISO TC267 has recently started the ISO41016 Technology workgroup. This group includes BIM in her scope. It will outline the technology landscape and focus on interoperability and integrated technology practices.

3.3   PROJECT GOVERNANCE

This first project will be executed and governed as a buildingSMART International project within the Building Room.

If the scale of the project and the commitment to deliver against grows beyond the size of a single project, then the SCE will be consulted again as to whether an FM Room should be formed.

Notwithstanding whether the initial outputs are delivered by a Building Room project or an FM Room series of projects, bSI is committed to responding to the needs of the international FM community.

3.4   RELATIONSHIP TO BSI STANDARDS, TECHNICAL WORK, AND TECHNICAL ROADMAP

buildingSMART International has several standards and projects which relate to the topic of Facilities Management. These include the ongoing development work of COBie as well as aspects of the bsDD (buildingSMART Data Dictionary) and the bSI Technical Roadmap. Please see the bSI website for more information including the standards library as available at this LINK. Also, the October 2020 bSI Virtual Summit showed a great amount of possible relationships, gaps and overlaps between the scope of this Activity Proposal with current activities by the bSI Community.

3.5   RELATIONSHIP TO OTHER STANDARDS AND TECHNICAL WORK

In this project, links to the following standards and technical work will be taken into account:

- IFC-based standards
- ISO TC267 (inc ISO 41000 series)
- ISO TC251 (inc ISO 55000 series)
- ISO TC59 SC13 (inc ISO 19650 series)
- OFML
- The work of the Digital Twin Consortium
- TIA connection to be established in Expert Group
- The work of six FM software providers called 'BIM for FMIS' (download whitepapers).
- Sustainable Development Goals of the United Nations
- Smart Building Standards
- UK BIM Framework
- www.kiradigi.fi

4 SCOPE & OBJECTIVES

4.1 SCOPE STATEMENT

The scope of this project is to determine what it needs to deliver and, eventually, produce an ISO 41000-based FMBIM Protocol, IDS and CDE. Given the existing bSI standards, current Room projects and deliverables, the buildingSMART International vision, their Technical Roadmap and the bSI Digital Twin position paper. In simple words this comes to making an inventory, doing the analyses and conclude what would be the best way to connect the FM industry with the global openBIM developments.

Given the size of the global FM market and the holistic scope of the profession and industry, it is to be expected there will be many possibilities to create interoperability with the stakeholders and technologies of the other building life cycle phases. That is why this project focuses on the application of BIM for managing:

1. Cleaning
2. Business Catering
3. Workplaces
4. Meeting Rooms
5. IoT
6. Maintenance
7. Asset Management

Special attention will be given to the possibilities for parametric design and creating digital twins of the mentioned facilities and services.

If the scope of the project and the commitment to deliver against grows beyond the size of a single project, then the Standards Committee Executive will be consulted as to whether an FM Room should be formed.

Out of the scope of this project are all facilities related to the built Infrastructure and Railway environment. Also, out of range are all subjects specifically related to the sole ownership of the construction industry.

4.2 OBJECTIVES

The objectives of the project are:

1. Representing the FM industry in developing openBIM and the ecosystem of digital twins.
2. Developing an FMBIM Protocol and Information Delivery Specification based on the ISO41000 series that will make automation of handover/transfer and revision of data more accessible for FM.
3. Deliver requirements for an AECO/FM Common Data Environment that will increase real estate value, bring down FM failure costs and simplify FM service processes.

4.3 APPROACH

The Project Leadership and Project Team will first identify, discuss, organise and confirm:

- Objectives and Scope
- Planning and Finance
- Organise the collaboration with Pure-Net, ISO TC267 and IFMA ITC.
- Interested participants to the Experts Group
- Possible use cases and applications
- Where to connect the ISO 41000-series content with existing bSI work.

The project will then start with a workshop with the Expert Group addressing:

- How can we best represent the FM Industry in the bSI Community?
- What are the issues causing the failure costs for FM?
- What FM actions can lead to increased real estate value?
- What opportunities do an FMBIM Protocol, IDS and CDE for FM deliver?

The outcome of 1-3 delivers the bases for the development of an FMBIM Protocol, IDS for FM and a layout for a CDE for FM, given the objectives and scope.

A second workshop answers questions like (for all or just a selected group of subjects in scope):

- What does FM need? (attributes, IFC property sets, MVD, IDS, etc.).
- Pain/Gain in using BIM for FM.
- Do we want an Open CDE/API initiative?
- What could be the role of the information exchange specification tool COBie?
- OIR / AIR / EIR / FM criteria.

The outcome delivers a roadmap to develop an FMBIM Protocol, IDS for FM and CDE for FM. Given the wide variety of sectors FM is practised in, the roadmap could include more than just one sector. Prominent sectors to get involved with would be education, health care, finance, software, co-working and public administration.

4.4   CHALLENGES

History has shown some significant challenges and risks when undertaking a project like this. The biggest two being the 'CAPEX versus OPEX' and the 'Project versus Process' mindsets.

The 'CAPEX versus OPEX' mindset means the primary objective of investors, project developers and owners is to design, built and deliver buildings to (internal) clients that buy the property or pay for the use. At the same time, renters, occupiers and users need a building to have their organization perform their activities. High capital value, high rental income and low OPEX are essential for the CAPEX-oriented market. Not so much for the renters, occupiers and users. They want the smallest and highest quality possible building, matching their business needs to the best, at a minimum price, rent and service costs. Reconciling these interests is the key to success. Organizations that are both owner/investor as well as occupier/user are most suited to avoid the 'CAPEX versus OPEX' mindset.

The 'Project versus Process' mindset means architects, builders, and engineers usually have a project-based task. After delivery of the job, they start a new project, while facility managers are entirely focused on holistically facilitating and integrating workplace processes and activities. Project managers are hired to do specific tasks. Process managers make specific activities possible. These two very different roles require very different skills, competencies and mindsets. If project managers from the

built environment do not understand the process needs of facility managers, they will never find opportunities for interoperability. Reconciling short-term project objectives with long-term goals of organizations using the project result, will avoid misunderstanding and miscommunication.

A potential risk for this project is the unwillingness of participating standards governing organizations to focus on industrial symbiosis. Especially when it comes to choosing national or international standards, public versus commercial standards and open versus closed BIM. We also often see a lack of willingness for cross-sectoral application of best practices. We need holistically thinking experts in Infrastructure, Offices, Healthcare and Social Housing searching for symbiosis. Because FMs have a holistic, integrated and generic education and can work in all mentioned industries, they are experts in finding the best practices in one sector and adapting it in another. The bSI community needs to understand and respect this capability.

<mark>openInnovation</mark>

5 DELIVERABLES

1. A BIM Protocol based on the ISO 41000 series representing the requirements of the facility management industry given the scope mentioned at 4.1, that will make handover/transfer and revision of data more accessible for FM.
2. An Information Delivery Specification based on the ISO 41000 series representing the requirements of the facility management industry given the scope mentioned at 4.1, that will make automation of handover/transfer and revision of data more accessible for FM.
3. An AECO/FM Common Data Environment model that will help increase real estate value by 2% bring down FM failure costs by 5% and simplify service processes.

6 RESOURCES & PROJECT EXECUTION

6.1 RESOURCES & SKILLS

Everyone working on this project is to be expected to reconcile the business interests of FM and the ACE industries.

Given the size and variety of industries the global FM market serves, it is essential participating individuals are multicultural aware and understand international governance. Also, it is required to have an open attitude towards existing bSI developments and set strategies and roadmaps. All participants are expected to have read the buildingSMART International vision, their Technical Roadmap , Digital Twin position paper and to have seen the latest bSI Virtual Summit presentations.

Project Leadership are to be reimbursed for the office, communication and travel expenses to/from relevant meetings and events and receive a monthly fee of € 1.000 for work done.

Project Team members work on in-kind bases. They will have free access to bSI summits. A project team member will take initiatives for funding of the project. In case the Project Team decides one of its members will represent the project at an event or a meeting with a potential Expert Group member or Sponsor, travel and accommodation costs will be reimbursed.

The bSI organisation is responsible for the administration of the project. Project Leadership, Project Team and Expert Group will work with the bSI standards and governance.

All participants are expected to be aware of the risks mentioned at 4.4.

6.2 PROJECT EXECUTION & MANAGEMENT

The project will initially be the responsibility of the BRSC. It will be organized similar to a Room in order to prepare for a potential FM Room initiative. The Project Leadership and Project Team will be given the freedom to develop the thought definition on the scope and deliverable(s). It will be supported with outreach to other potential contributors.

Project Leadership will be the shared responsibility of:

- Fred Kloet (FMN, buildingSMART BeNeLux and SWPi) who is the initiator of this project,
- Alexander Worp (buildingSMART BeNeLux) who has worked with bSI for many years already.

The Project Leadership will need 8 hrs/wk, communications and office facilities and travel when required. There will be budget made available for 12 months of leadership.

The leadership will form the Project Team and:

- Jacob D'Albora (IFMA IT Community); an FMBIM Expert representing the global FM association IFMA with 23,000 members
- Salla Eckhardt (Microsoft Global Real Estate and Security) who created the Microsoft BIM Strategy and acts as a chair in the Digital Twin Consortium
- Dr Simon Ashworth (Zurich University of Applied Sciences – FM) who connects BIM with FM scientifically and leads international research in this field.
- Gordon Mitchell (ISO TC267) who connects ISO41000 with BIM.
- Svein Hakon and Torill Johnsen (Public Real Estate Network) who represent the European national real estate agencies and ministries.
- An Asian and African representative (to be chosen).
- a Protocol, IDS, CDE and IFC Schema's Expert (to be selected)
- a Digital Twin Expert (to be chosen).

Members of the Project Team act as the portal to their organization, chapters, colleagues, members and workgroups in promoting and coordinating the activities of the project while encouraging them to participate and organize national mirror-groups. Membership will take 2 hrs/wk, communications and office facilities and travel when required. The member's organizations will cover time and facilities. Travel will be reimbursed when required.

The Expert Group will be formed by (to be invited and selected by the Project Team):

- Representatives from the bSI Community (max 6)
- Workplace Managers from diverse public and private sectors with a (developing) case (max 4)
- Corporate RE and FM from diverse public and private sectors with a (developing) case (max 4)
- Corporate IT and/or HR Managers from diverse public and private sectors willing to help develop and use the ISO 41000 FMBIM Protocol (max 4)
- Software providers with an (developing) ISO 41000 and/or FMBIM strategy (max 6)
- Business Service providers with an (developing) ISO 41000 and/or FMBIM strategy (max 6)
- Experts from the Architecture, Construction and Engineering industries. (max 6).

Crucial for selection of the Experts is the scope mentioned at 4.1 and acknowledgement of the ISO 41000-series being the main constraint.

Potential Experts to be selected work at organizations such as (examples only): AMD, Lenovo, TOPCON, NVIDIA, Bricsys, CBRE, JLL, Cushman & Wakefield, Amazon, Google, BASF, Implenia, Roche, Impregilo, Strabag, Schneider Electric, Nemetschek, Autodesk, Trimble, DXC Technology, RHDHV, Siemens, Shell, ASML, ThyssenKrupp, Randstad, Adecco, WeWork, Regus, ISS, EPO, Edge Technologies, ARUP, Fujitsu, Sodexo, Canon, Workday, AECOM, SAP, Adidas, Gensler, IBM, HSBC, HOK, NetApp, Bank of America, pom+, Oracle, Signify, Wells Fargo, Danske Bank, Accenture, Deloitte, GSK, Colliers, BNP Paribas, Merck, Standard Chartered Bank, Mace Macro, BT, T Mobile, SAS, Planon, Salesforce, Intuit, Cognizant, HP, Heineken, Coca-Cola, Banco Santander, Steelcase, Wilkhahn, Swiss RE, AXA, Allianz, Bayer, Honeywell, Fluor, Jacobs, KLM, BMW, GSA, Willow, Perkins Will, Ferrovial, FM:Systems, Keystone, RICS, Cisco, DHL, etc.

Members of the Expert Group will pay a voluntary fee to help cover the Project Leadership, Project Team Travel and bSI Administrator costs.

The bSI Administrator will be agreed at a later stage.

Project Leadership and bSI Administrator will act as the liaison to the broader bSI Community, including national chapters.

bSI and the BRSC will actively invite other Rooms and bodies to engage with the project.

Project Management is explained in [Addendum 3 of the bSI Process](#).

All participating individuals or organizations need to be international or national bSI-member.

6.3   LIAISONS

See 6.2 for names, organizations and LinkedIn profiles of the Project Leadership and Project Team. All mentioned representatives have already been included in box and the bSI administration.

The Project Team will make additional strategic liaisons via the selection of Expert Group members.

7   WORK & TIME SCHEDULE

The Project Team has delivered a draft Activity Proposal to BRSC and presented the draft on November 2 at the buildingSMART International Virtual Summit.

Till November 10 the Project Team will listen to the market and include improvements to the draft.

On November 10 the Project Team reviewed and finalized the Activity Proposal. Soon after the following four steps are to be taken:

1. BRSC review the FM proposal and recommend the proposal for Standards Committee consultation (November-December 2020)
2. Standards Committee consulted. Results shared with bSI community to make aware of the proposal. More interest and resources may come forwards. (November-January 2020)
3. The Project Team and Expert Group increases in size. Various meetings will determine the scope of the project, the gap and overlap with existing bSI activities and the level of interest for contribution. Workgroups will be created and meet. (January-June 2021)

4. Centralize, conclude and determine whether there is either (July - October 2021):
   - One project or multiple projects to resolve the FM requirements in the BR
   - Sufficient scope and interest to create a new FM Room.

At the Fall bSI summit, the Project Team will present their results and, if applicable, present their Room Proposal.

8   BUDGET & FUNDING

Until November 11, 2020, there was no need for budget and funding. Once the BRSC has reviewed and approved the proposal, the Project Leader and Project Team will invite and select the potential Expert Group* participants. This will require funding for communications, office expenses and travel. (Step 2., Nov./Jan., €3K)

Given the scope and industry of this Activity Proposal, it is to be expected starting November 11, 2020. The project will require a significant investment similar to a Room from the leadership and requires administration comparable to a Room. The project therefor requires administration from an individual that understands the bSI Process well and who is accountable to both the BRSC as well as bSI Operations Director. The Administrator acts as secretariat to the project and manages the documents that form the operation of the project. They also manage the database of project participants. Once the project has a suite of workgroups, then there will be many meetings and documents to be managed. (Step 3, Jan./June, €36K)

After workgroups have examined the various subjects and themes, their reports will be connected, analyzed, integrated and lead to conclusions and a new proposal (step 4., July/October, €36K).

If the scale of the project(s) and the commitment to deliver against grows beyond the size of a single project, then the SCE will be consulted as to whether an FM Room should be formed. For an FM Room bSI would require the BRSC and project stakeholders to provide sufficient funding from the outset to employ the Leadership and Administrator and facilitate the Project Team and Expert Group during the phases of the project establishment Nov.2021 >>>):

• Project formation/onboarding of participants – 8 hours a week – 3 months (€5k)

• Charter & Roadmap creation/call for participation – 16 hours a week – 3 months (€10k)

• Projects planning/consortium agreement formation – 24 hours a week – 3 months (€15k)

• Projects launch – full time as part of the PMO – 38 hours a week – 2 years + (€200k).