

# EVALUATION REPORT

## Evaluation of the research & innovation collaboration platform

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## BFCC—BALTIC FRACTURE COMPETENCE CENTRE

The Baltic Fracture Competence Centre (BFCC) is a pan-Baltic fracture cooperation network fostering innovation within fracture management. The project consortium consists of a transnational cross-sector partnership involving five hospitals, three companies from the medical technology industry, a university, three clusters and one technology transfer organization.

Due to an ageing society, the need for innovative products and clinical procedures for fracture treatment is increasing as a response to age-related fractures and co-morbidities such as osteoporosis, infections and non-unions. Innovations in fracture management must reduce the cost of care or clearly improve quality of care.

Clinicians will support the innovation process by identifying the clinical needs to ensure user-oriented product development. The collaboration between hospitals across countries will foster the innovation of clinical procedures through the

exchange of best practice in fracture management influenced by different national, organizational and regulatory conditions.

However, clinicians and companies often lack insight information about total cost and effectiveness of fracture management and causes of adverse health outcomes in the hospitals. To overcome this information gap, the BFCC will develop and implement a transnational fracture registry with five hospitals from Estonia, Germany, Lithuania, Poland, and Sweden, respectively, providing evidence about fracture treatment in the clinical »real world« and reveal clinical needs as well as potentials for innovation.

The BFCC will publish two innovation reports. The Innovation Report No 1 deals with trends in the surgical treatment methods of proximal femur fractures. The Innovation Report No 2 based on results and findings from registry data analysis will identify innovation needs and potentials.



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## 1. MANAGEMENT SUMMARY

This report evaluates the current status of the cooperation structures within the collaboration platform of the BFCC project. The evaluation covers group communication, the performance and usability of the demonstration pilots, user satisfaction with the research & innovation (R&I) infrastructure, identification and solution of system weaknesses. This report presents the results of an online survey, in which the partners from all three demonstration pilots (regarding complications, infections and bone density measurement) took part. The three demonstration pilots provide insights into the communication between the partners and list the challenges that companies and hospitals have to face in order to achieve the set goals successfully and jointly.

In summary, hospitals and companies have developed effective procedures for planning, establishing and implementing joint innovation cooperations. The results of the survey have shown that both companies and hospitals benefit from an accelerated innovation process. If problems arose, then at the beginning of the project

until a certain type of common communication had been established.

The majority of participants of the survey named problems regarding personnel and other resources, e.g. personnel changes, too low number of staff, as the main problem in the implementation of the project followed by the challenge in acquisition of patients and amount of data input. Misunderstandings, the different understanding of tasks and no response were the biggest problems in the area of communication with which the partners had to struggle.

Nonetheless, based on their experience from the demonstration pilots, the companies and hospitals fully recommend transnational cooperation between industry and hospitals. They stated that the main strength of the collaboration was that everyone could contribute their own strengths to the project and benefit from the knowledge of the other project partners. All these components could be combined more effectively and efficiently and synergy effects could be used.

## 2. BFCC PROJECT

The BFCC is a joint project of hospitals, industry, research institutions and health/Life Science clusters in the Baltic Sea Region (BSR). The BFCC develops and implements a transnational fracture registry platform of five hospitals from Germany, Lithuania, Poland, Estonia and Sweden, allowing a comparison of the process and outcome quality across institutions and countries. This transnational R&I infrastructure fosters the evidence-based

identification of clinical best-practice and needs for innovation. Moreover, BFCC establishes a transnational collaboration platform between hospitals and industry, which will be tested in three transnational pilots, with five hospitals and three companies involved. As part of the EUSBSR flagship project HealthRegion, the project opens the R&I infrastructure and identified innovation needs to all BSR companies.



PHOTO: Adobe Stock

## 3. DEMONSTRATION PILOTS

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### 3.1. Introduction

BFCC establishes a transnational cooperation platform between hospitals and industry, which is being tested in three transnational pilot projects with five hospitals and three participating companies. To identify innovation gaps and potentials in the field of bone density measurements, infections after fractures and complications after fracture treatment, industry will be involved in these pilots so that industry ideas and suggestions can be used to develop solutions, e.g. a roadmap for implant-related fracture control solutions.

BONESUPPORT AB from Sweden, Bone Index Finland Ltd. from Finland and Stryker Trauma GmbH from Germany participate in the three demonstration pilots dealing with infections, diagnosis of osteoporosis and postoperative complications. These topics are of high relevance for the identification of innovation potentials.

Together with the partner hospital in Lithuania, BONESUPPORT AB will develop an innovation concept for infection control as part of the demonstration pilot project on infections. Bone Index Finland Ltd. supports the pre-surgery assessment in the second pilot on bone density measurements after fractures to develop innovative and individualized treatment of fracture patients. In the third pilot on complication management after fracture treatment the University Medical Center Schleswig-Holstein and the University of Tartu with its University Medical Centre develop a standardised classification system for post-surgery complications within fracture management. To meet the new requirements from the EU Medical Device Regulation (MDR) the third pilot on complication management includes a MDR sub-study in which Stryker Trauma GmbH is involved.



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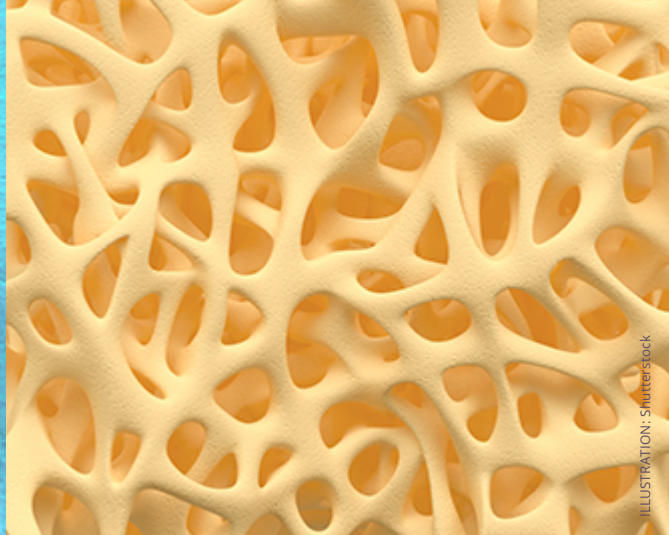


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## 3.2. Objectives of the pilots

### 3.2.1. Pilot on infections

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Lithuanian University of Health Sciences

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BFCC website:

[www.bfcc-project.eu](http://www.bfcc-project.eu)

The focus of this demonstration pilot is on the systematic identification of the causes of infections during the fracture management process, as infections are a major comorbidity in fracture management. The required data will be generated in the participating hospitals and then stored in the Transnational Fracture Registry Platform (TFRP).

In a first step, treatment pathways are compared in different hospitals to find out exactly where infections occur. The partners then define general treatment and fracture treatment processes in hospitals in Sweden, Poland and Lithuania. Since BONESUPPORT AB already cooperates with hospitals in Sweden and Lithuania, appropriate support is offered for the comparison of treatment paths.

In addition to the development of approaches for infection control solutions, the focus of this demonstration pilot is also on identifying innovation gaps and potentials, among other things by analysing the data available in the registry. The partners develop an implant-related solution concept including a concept for hospital management processes according to best practices of other hospitals (e.g. development of a trauma »gold standard«/roadmap for hospitals with a special focus on BSR requirements).

Finally, hospitals in the BSR are informed about the results and best practices so that it is possible to improve their own infection control processes in acute trauma care by comparing themselves with the developed trauma »gold standard«. Hospitals benefit from the exchange of best practices and the joint development of innovative solutions for infection control in fracture management.

### 3.2.2. Pilot on bone density measurements after fractures

Lead:

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The aim of this pilot study is to evaluate whether perioperative assessment of one mass index is a) possible without delaying the time to surgery and b) giving the surgeon useful information during and after surgery. A critical evaluation of the clinical use of Bindex<sup>®</sup>, a handheld device for rapid and accurate estimation of bone mineral density (e.g. osteoporosis), is carried out for this purpose. The aim is to enable early surgical intervention in existing osteoporosis, as osteoporosis is normally only diagnosed during the patient's aftercare if the patient suffers from a low-energy fracture.

The pilot evaluates the benefit for the surgeons to quantitatively know the patient's bone mineral density during surgery. The data can be used to determine





PHOTO: Shutterstock



ILLUSTRATION: Adobe Stock

the influence of bone density measurement before hip fracture treatment. The improvement of treatment, the healing process and decisions during surgery and aftercare can be assessed by this pilot project, which has a direct impact on treatment and immediate rehabilitation decisions.

The data generated in this pilot project, i. e. results of bone density measurements in relation to acute fracture treatment, surgery and healing process, are integrated into the fracture registry platform. The data will be available within the registry platform and will be published. On the one hand, the data offer the opportunity to accelerate the development process for new products, services and technologies and, on the other hand, the opportunity to improve the existing therapeutic approaches.

### 3.2.3. Pilot on complication management after fracture treatment

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Lead:  
University Medical Center  
Schleswig-Holstein

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The development of a new classification system for postoperative complications in fracture treatment is the focus of this pilot. Since the documentation of complications is crucial for the evaluation of therapeutic interventions, the three major complications »bone infection«, »bone non-union« and »bone misalignment« are

evaluated in the participating hospitals in addition to minor complications.

Furthermore, this pilot is going to assess the integration of standardised documentation of complications into the fracture registry. BONESUPPORT AB will gain knowledge about traumatic bone defects and gaps in connection with surgical procedures and BONESUPPORT AB will investigate the industry's need for classification and classification systems.

A reassessment of the system after statistical analysis will take place, changes will be done and implementation into the general BFCC framework will follow. The results are disseminated among the clinical and industrial actors of the BSR in order to facilitate a better understanding and comparability of complications.

### 3.2.4. Feasibility study on Medical Device Regulation

The demonstration pilot project »complications« was extended during the running project by an MDR sub-study with the aim of using routine registry data in order to meet the requirements of and receiving necessary data for the new EU MDR to guarantee patient safety by manufacturers. This will lead to a high level of complying with legal requirements to guarantee implant safety.

This sub-study provides information on how to ensure continuous monitoring of complications and irregularities during the treatment of patients. With IT-assistance the used medical implants are electronically registered and, afterwards, entered into the fracture registry. This might lead to the possibility to track and adjust occurring complications. With the MDR add-on to the third pilot, BSR's medical industry is being prepared for the upcoming regulatory changes.

## 4. EVALUATION OF THE COLLABORATION

### 4.1. Introduction

This chapter describes which challenges companies and hospitals have to face in order to successfully and jointly achieve the BFCC project goals. The content of the evaluation report refers to the description of the current status of the pilots.

For the preparation of the report an online survey has been created for all participants of the three pilots to get information about the collaboration of indus-

try and hospitals. The online survey was divided into four complementary fields such as:

- Group communication within the pilot
- Pilot performance and usability
- User satisfaction with the R & I infrastructure
- Challenges and weaknesses of operational framework

The screenshot shows a survey interface titled "BFCC WPS Evaluation Survey" with a sub-section "User satisfaction". It contains three questions:

- "What was the specific benefit/added-value for your organisation?" followed by a text input field.
- "What has to be improved in future research and innovation (R&I) collaboration?" followed by a text input field.
- "Would you recommend transnational collaboration between industry and hospitals?" followed by a slider scale from 0% to 100% with a "0% no - 100% yes" label and a "100%" marker.

At the bottom, there are "Prev" and "Next" buttons.

Figure 1: Online Survey—Template user satisfaction

### 4.2. Group communication within the pilot

In the area of group communication, questions were asked about the communication tools used and the frequency of their use. Equally important was the identification of any problems that may have occurred in the communication of the various partners and a general assessment of the communication within the group.

Below is a list of the four question areas within group communication:

- General assessment of the group communication
- Use of communication tools
- Kind of problems within the communication
- Further comments

#### 4.2.1. General assessment of the group communication

Communication in general

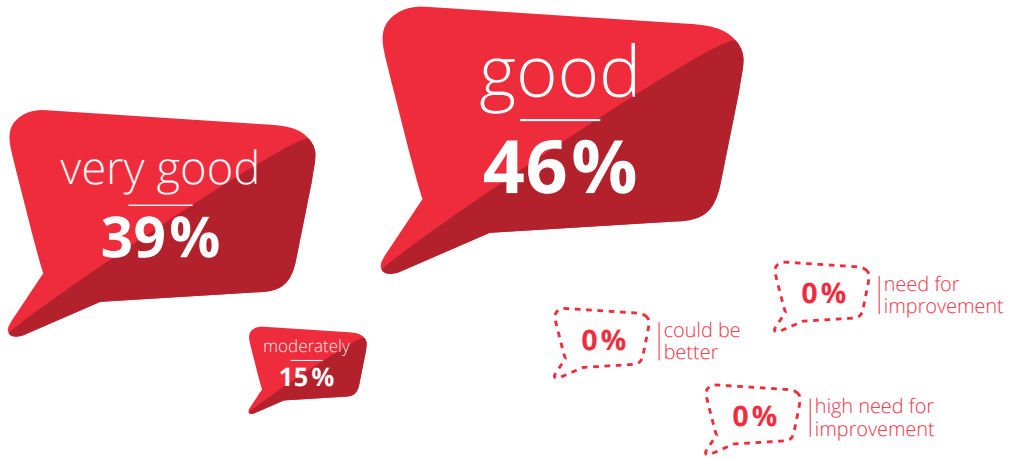


Figure 2: Online Survey—Assessment of communication in general

The group communication in general was rated as very good or good by 85% of the participants; overall, it was called an open and good communication. Some of the participants mentioned that the at-

tendance discipline to calls and efficacy of calls could be improved and more face-to-face meetings in smaller working groups had to be scheduled.

#### 4.2.2. Use of communication tools

Communication tool: Phone calls

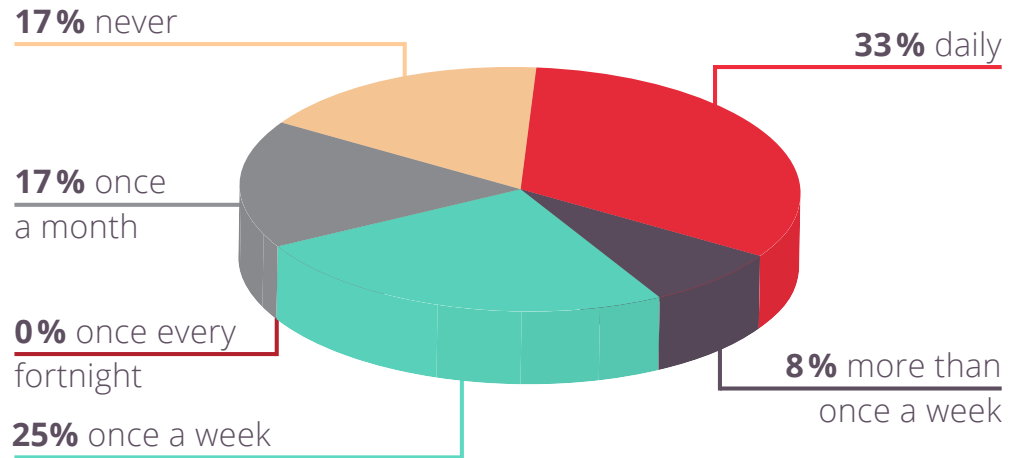


Figure 3: Online Survey—Communication tools—Phone calls

The graphic above shows how often phone calls were used by the partners as an instrument for group communication. According to the current status 33% of the participants used the telephone daily

to discuss upcoming matters with their partners in the pilot. 25% used the telephone call at least once a week to contact the other participants of the pilot or were contacted.

Communication tool: Skype™ calls

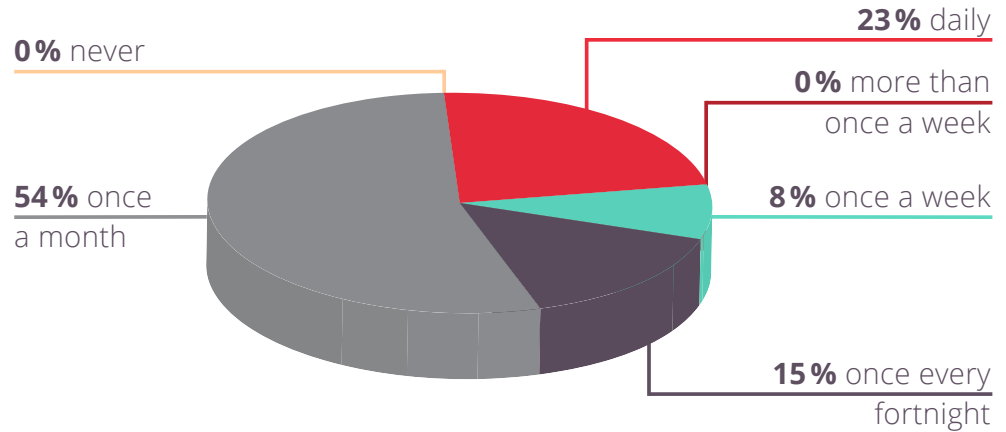


Figure 4: Online Survey—Communication tools—Skype™ calls

The graphic visualises how often Skype™ calls were used by the partners as an instrument for group communication. The majority of 54% participants discuss the current status, tasks, problems or the

next steps with their colleagues at least once a month. 23% of the respondents use Skype™ for their daily communication with the project partners.

Communication tool: Regular e-mail reports

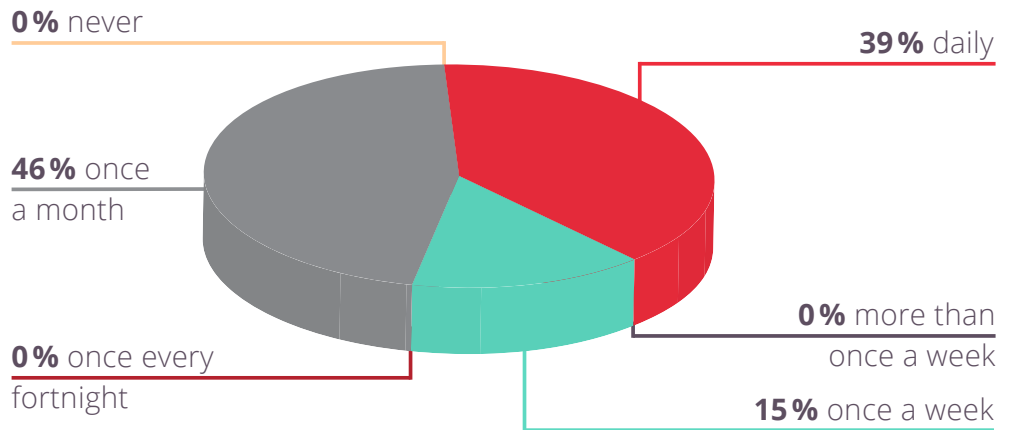


Figure 5: Online Survey—Communication tools—Regular e-mail reports

Figure 5 provides information on how often e-mails were used by the partners as an instrument for group communication. E-mails are used for communication on a daily or monthly basis. Nearly half of the

respondents (46%) discuss the problems or tasks with their colleagues at least once a month. 39% of the respondents use e-mails for their daily communication with the project partners.

### 4.2.3. Problems within the pilot communication

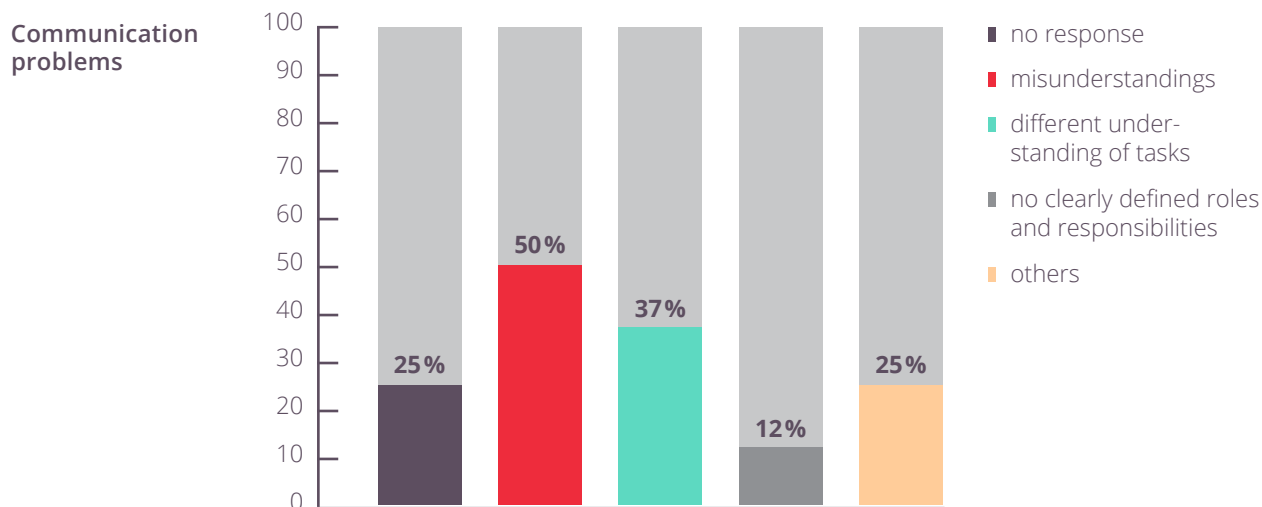


Figure 6: Online Survey—Communication problems (multiple answers possible)

Misunderstandings, named by 50% of the participants, and the different understanding of tasks, named by 37% of the respondents, at the start of the project were the biggest problems in the area of communication with which the partners had to struggle. These problems would not have occurred at personal meetings or could have been solved more easily, but of course the budget must also be taken into account as well as daily workload. Budgets regarding travel and accommodation to meet personally would have to be increased in the financial planning. Some of the communication problems occur more frequently at the beginning of a project, while others occur repeatedly throughout the entire project duration.

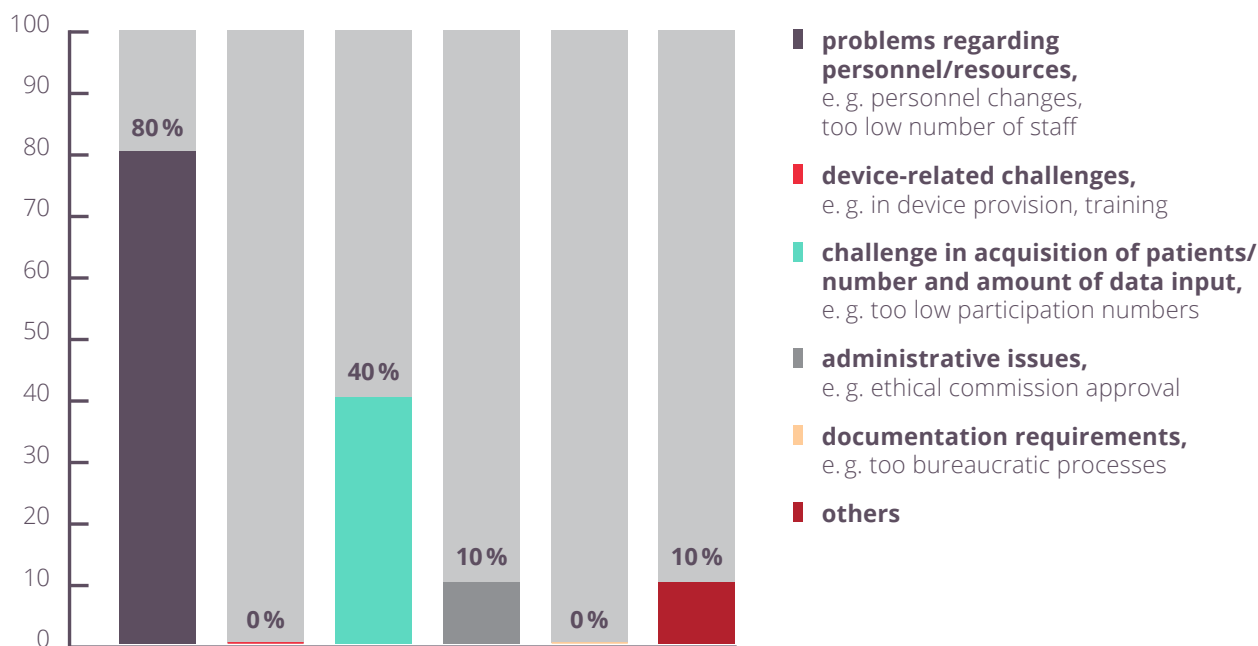
The comments from the participants for section »others« are listed below:

- Lack of attendance
- Some actions (as changes in plan and submission of abstract) had already occurred when we were informed
- No problems

### 4.2.4. Further comments

- Overall open and good communication
- Attendance discipline to calls and efficacy of calls could be improved
- More face-to-face meetings in smaller working groups should be planned





Methodical problems or challenges

Figure 7: Online Survey—Methodical problems and challenges (multiple answers possible)

### 4.3. Pilot performance and usability

In the area of performance and usability the participants were asked for methodical challenges they have faced during the study.

#### 4.3.1. Methodical problems or challenges

An overwhelming majority of participants (80%) named problems regarding personnel and other resources, e. g. personnel changes, too low number of staff followed by challenge in acquisition of patients, number and amount of data input, e. g. too low participation numbers (40%) as the main problems in the implementation of the project. One partner mentioned that there were delays in the study due to staff restrictions at the participating hospital.

The comment for section »others« are listed below:

- Hospital information technology systems not compatible 1:1 to University Medicine Greifswald system. Requires manual data processing.

Here are two examples of the challenges faced by clinics during the pilot's lifetime:

- **problems regarding personnel/resources,**  
e. g. personnel changes, too low number of staff
- **device-related challenges,**  
e. g. in device provision, training
- **challenge in acquisition of patients/number and amount of data input,**  
e. g. too low participation numbers
- **administrative issues,**  
e. g. ethical commission approval
- **documentation requirements,**  
e. g. too bureaucratic processes
- **others**

- One person was hired to support a study. Conversations were held, the task was explained and further conditions were discussed. Unity has been signalled. After that, the person, who was to be hired and who had expressed interest in the position simply stopped responding. Suddenly the person could not be reached by phone or in writing and there was no feedback for 4 weeks. After that there was a written cancellation. This led to a delay in the start of work because the clinic had to take care of hiring another person.
- There are difficulties in reaching the specified number of patients to be included in a study. These are elderly patients, half of whom suffer from dementia or have a caregiver, who avoid any contact. Study nurses try to contact the caregiver to talk about the study, the participation, the further procedure, but often they do not receive answers to their efforts. As a result half of the patients cannot be included in the study for the two reasons mentioned above.

#### 4.3.2. Use of the registry

Registry as documentation tool

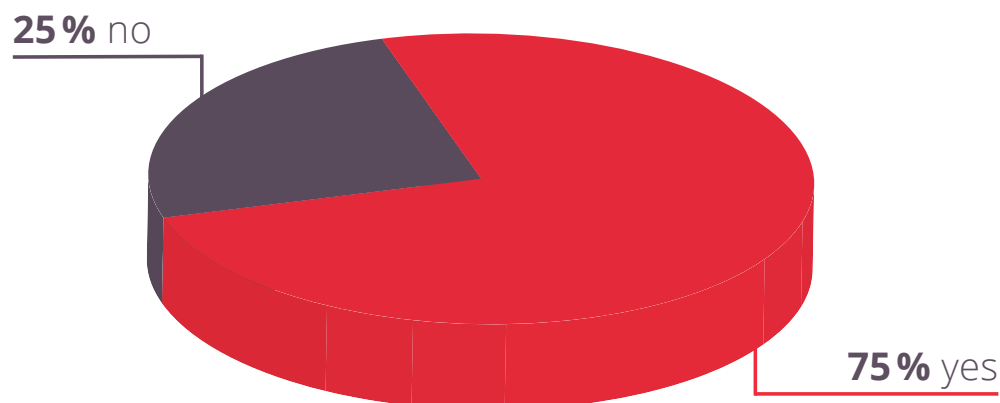


Figure 8: Online Survey—Registry used as documentation tool

Registry as source of data

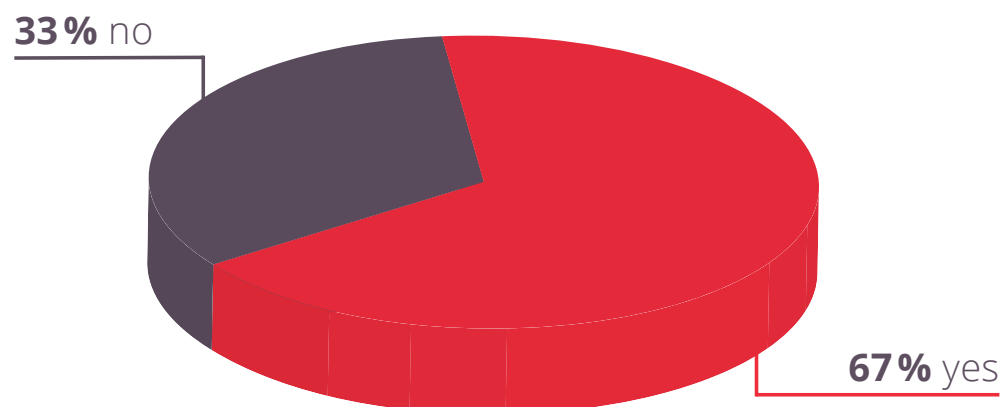


Figure 9: Online Survey—Registry used as source of data

The registry was used to a high percentage as documentation tool (75%) and as a source of data (67%). Obviously there are partners who use the registry both as a documentation tool and as a source of data. Some participants in the survey were not able to use the registry at the beginning of their project because it still had to be set up.

The comments from the participants are listed below:

- Registry will be used for MDR— not applied yet
- So far, we have not used the registry and most likely the registry is not so critical in this particular pilot project (focusing on the elution of the antibiotic)
- At the time the pilot was performed registry was not available

#### 4.4. User satisfaction

What was the specific benefit/added-value for your organisation? What has to be improved in future research and innovation (R & I) collaboration? Would you recommend transnational collaboration between industry and hospitals? These three important questions should be answered by the participants in the user satisfaction area.

##### 4.4.1. Specific benefit/added value for your organisation

The comments from the participants of the survey are listed below:

- Learn about hospital IT data systems
- Valuable exchange with project partners
- More data about how our products work, i. e. elutes antibiotics, but also a deeper knowledge in this important and critical area (infections connected to fractures)
- We started using Bindex®

##### 4.4.2. What should be improved in future research and innovation collaboration

Some of the participant's suggestions for an improved research and innovation collaboration are listed below:

- More direct face-to-face interaction
- Define clear goals at start of project
- Strong commitment from all stakeholders
- Communication is always the key and efforts to improve it should be supported

##### 4.4.3. Would the transnational collaboration be recommended

Currently, 12 out of 14 participants in the survey support transnational cooperation and would recommend it to others, 2 participants skipped the question.

#### 4.5. Challenges and weaknesses of operational framework

System challenges of operational framework conditions

In this area, the participants were asked for system weaknesses or challenges of operational framework conditions and

what the main strength of hospital and industry collaboration means to them.

##### 4.5.1. What system challenges of operational framework conditions do exist

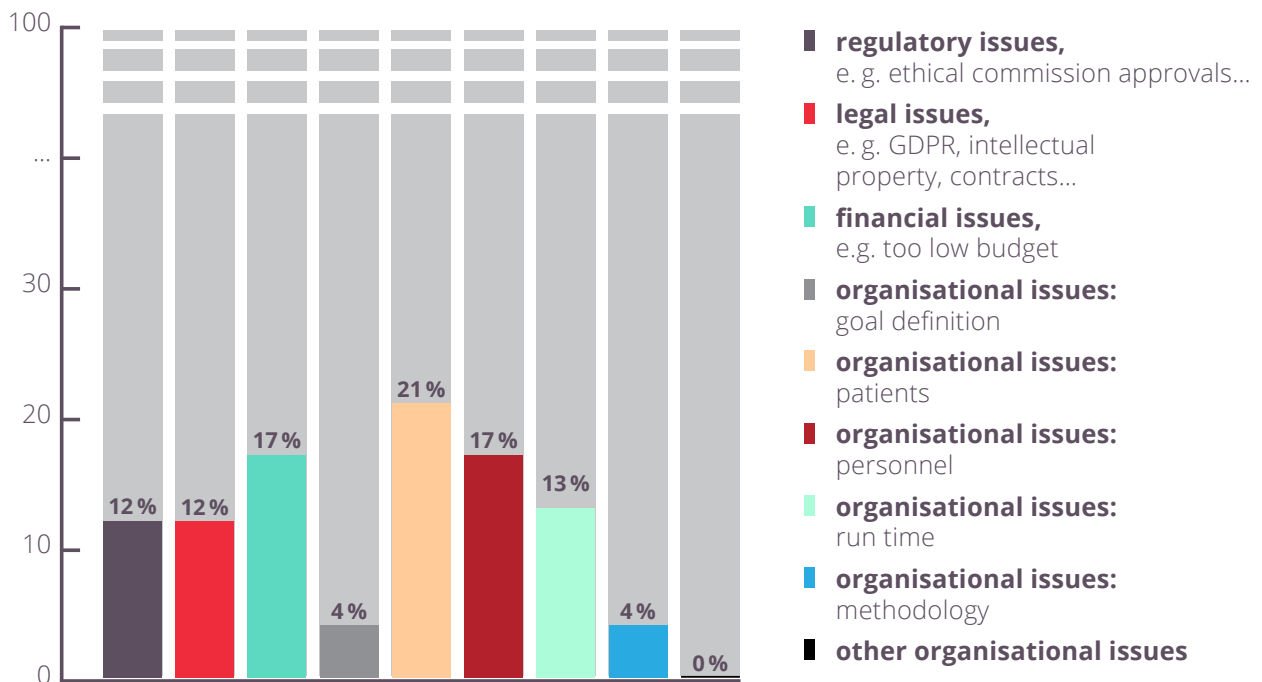


Figure 10: Online Survey—Challenges of operational framework conditions (multiple answers possible)



In the survey, the participants named the organisational issues such as patients (21%), staff (17%) and financial issues, e.g. too low budget (17%), as the system challenges of operational framework conditions, which they found the most demanding.

Here are some comments made from different partners:

- It gets more and more difficult to establish collaboration between industry and healthcare providers due to legal and compliance reasons. Registry needs sustainable concept to ensure continuity after project ends.
- My response above is for future »collaboration hospital–industry« and not for the pilot project one we just have had. The new Medical Device Regulation will require a lot from Medical Device companies in the future—on all levels.

#### 4.5.2. What is the main strength of hospital and industry collaboration

Here are some comments made from different partners:

- The ability to quickly respond to needs.
- Healthcare needs innovation and so hospitals and industry need to collaborate closely. Industry needs to understand the clinical needs and hospitals need to understand the industrial framework (compliance, legal, IP, regulatory) to set common goals that are achievable, profitable and solve the healthcare need.
- As an innovative medical device company you want to have as much clinical data and »in-put/feedback from users« as possible. To get this information, you need to have close and controlled collaboration with hospitals which are using your products in a controlled way (be in compliance with MDR). This »BFCC-collaboration project« has improved our knowledge about one of our products. We are very satisfied with the opportunity to a hospital-industry collaboration the BFCC Project gave us.
- Our capacity as innovation infrastructure has improved.



## 4.6. Conclusions

### 4.6.1. General conclusions

The majority of the questioned partners are in favour of transnational cooperation and would recommend it to others. However, this did not function quite smoothly and there are one or two points that should be improved in the future.

Communication is a very important part of the collaboration for all respondents, because calls are made and e-mails are written on daily basis. Apparently it is very important that all participants

future, there should be more meetings at the beginning of projects, in which the participants meet personally and thus be able to develop a common understanding for the upcoming tasks. It is important that the partners within their organisations give a clear commitment to the projects and that you can rely on the input of the work package partners during the course of the project. It should not be the case that the work agreed upon is not delivered or not delivered on time.

Many partners face restrictions in human resources (too few employees or frequent changes) and the limited financial budget, as well as sufficient patients who meet the inclusion criteria to be included in the study—due to a lack of personnel on the one hand and patients who do not meet the criteria on the other. In the survey, the participants named the organisational issues such as patients, staff and financial issues, e.g. too low a budget as the most important system challenges of operational framework conditions. Thus, there is great correlation between the methodological problems and challenges and the weaknesses in the system.

A commentary in the survey stresses out how difficult it will be for the industry to successfully meet all the requirements of the new MDR. »The new Medical Device Regulation will require a lot from Medical Device companies in the future—on all levels.« This might be easier with a solid base of a collaboration platform between hospitals and industry.

Based on the experience gained by the partners in the pilots in the cooperation between industry and hospitals and the online survey that was conducted, it is possible to draw conclusions for improved framework conditions that have an impact on the BFCC collaboration platform.

### 4.6.2. Added value of the collaboration through BFCC

What makes this BFCC collaboration different from a collaboration without BFCC? Answers to this question are listed in table 1 below.



always bring each other up to the current status of the pilot and that possible problems can be solved quickly together. Communication in general was rated as very good to good by the respondents. From this it can be concluded that a very high level of communication has been achieved and that both the participants and the pilot benefit. It is important to consider the current status of each pilot and in what sense the type of group communication with all its requirements and effects depends on it.

The communication in the pilots can be described as open and constructive. In order to avoid misunderstandings and different understandings of tasks in the

Added value of the collaboration

DESCRIPTION	ADDED VALUE
<p>The BFCC unites many fracture management specialists from different countries. They work together on problems such as improving treatment methods for patients who have suffered a fracture or identifying the ideal time for treatment.</p>	<ul style="list-style-type: none"> <li>• Exchange of »best practise« among the specialists</li> <li>• Knowledge transfer</li> <li>• Exchange ideas</li> </ul>
<p>Five hospitals in different countries of the BSR are available for data collection and for conducting clinical studies.</p>	<ul style="list-style-type: none"> <li>• A larger number of patients, physicians and scientific staff are available to conduct clinical studies or other research projects</li> <li>• Provide the registry with necessary patient data</li> <li>• More data can be recorded in the registry, which leads to a better quality of the statistical evaluations</li> <li>• Country-specific aspects can be identified</li> </ul>
<p>Thanks to BFCC and the existing structures, it is possible to deal with »up-to-the-minute« problems.</p>	<ul style="list-style-type: none"> <li>• The pilot project Complications was extended during the running project by an MDR sub-study with the aim of being able to access routine registry data in order to meet the requirements of and receiving necessary data for the new EU MDR to guarantee patient safety by manufacturers</li> </ul>
<p>A large stakeholder network has been established in the BSR within the framework of the BFCC.</p>	<ul style="list-style-type: none"> <li>• The needs and concerns of different target groups in the BSR in fracture management have already been identified in various workshops for relevant groups within the healthcare and the industrial sector</li> <li>• To understand and anticipate the needs and concerns of stakeholders active in the field of fracture management via personal communication and stakeholder workshops</li> </ul>
<p>Due to BFCC, there is not only close cooperation between industry and hospitals, but also between hospitals.</p>	<ul style="list-style-type: none"> <li>• Gaining insights in partner hospitals</li> </ul>
<p>The BFCC has also brought advantages for industry.</p>	<ul style="list-style-type: none"> <li>• Within the framework of the demonstration pilots, the industry receives:             <ul style="list-style-type: none"> <li>• More data</li> <li>• More and deeper knowledge about its product</li> <li>• Is directly involved in the process</li> <li>• Receives immediate feedback on its product</li> </ul> </li> </ul>

DESCRIPTION	ADDED VALUE
Within the BFCC a new classification system for post-surgery complications within fracture treatment was developed.	<ul style="list-style-type: none"> <li>• Identification of improvement potentials with regard to innovative products, services and technologies</li> </ul>
The BFCC's TFRP is the core element necessary for the acquisition, processing, integration, storage and analysis of homogenous fracture registry data.	<ul style="list-style-type: none"> <li>• An uniform specification of a common minimal data set (CMD) was developed for data on a transnational level</li> <li>• The CMD is the mandatory data set for all participating hospitals being collected and entered to the registry</li> <li>• Furthermore, every hospital is free to enter additional data about a patient useful, e. g. for the specific purpose within a certain type of fracture</li> <li>• Ensuring high data quality</li> </ul>
Within the BFCC, a knowledge platform, which gives a general overview of fractures and fracture management, was set up. This platform will be further improved and expanded in the course of the project.	<ul style="list-style-type: none"> <li>• Innovation library</li> <li>• General information on fracture management</li> <li>• Innovation reports</li> <li>• Recommendations on clinical innovation needs and best practices</li> </ul>
The BFCC's innovation dialogue is an opportunity for companies and clinicians to enter into dialogue on the problems within fracture management from both the industry's and the hospital's view.	<ul style="list-style-type: none"> <li>• Innovation Dialogue Events: <ul style="list-style-type: none"> <li>• Clinicians from different countries support the innovation process in identifying clinical best practices and innovation needs</li> </ul> </li> </ul>
An EU data protection conformance for the transnational fracture registry, is required. By this, the transnational fracture registry BFCC provides a working example for overcoming the barriers that stop the free flow of eHealth data.	<ul style="list-style-type: none"> <li>• Sharing eHealth data across borders</li> <li>• An important contribution to the digitalisation agenda for the BSR</li> </ul>
Within the framework of BFCC it was possible to record fracture management data from five different countries in a registry.	<ul style="list-style-type: none"> <li>• A reporting system has been installed, where each partner can receive a general statistical analyses over all cases and data which are entered in the registry or a customized report</li> </ul>

Table 1: Added value of the collaboration through BFCC

## 5. RECOMMENDATIONS

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In another survey, it is important to consider the pilot's stage: start, middle and end. Depending on which phase the pilot is in, the communication behaviour and the communication need changes.

- In the beginning, communication should take place more frequently, this should also take place as personal meetings. Once the project has started and the individual project members know exactly what their tasks are, how they should be done and by when in what form, the project members can enter the phase where less communication is required.
- In the middle of a project, there are Skype™ calls or e-mail reports, in which partners can exchange information about the current status of their work. Only if there are real problems that require the support of the other project members to solve are calls more likely to be made.
- Towards the end of the project, personal meetings should be considered again, as the results should be presented to each other and possibly networked. For the exchange of the provided documents naturally the dispatch by e-mail offers itself, however the clarification of inquiries should take place better directly—in a meeting or with a call, but not by e-mail.

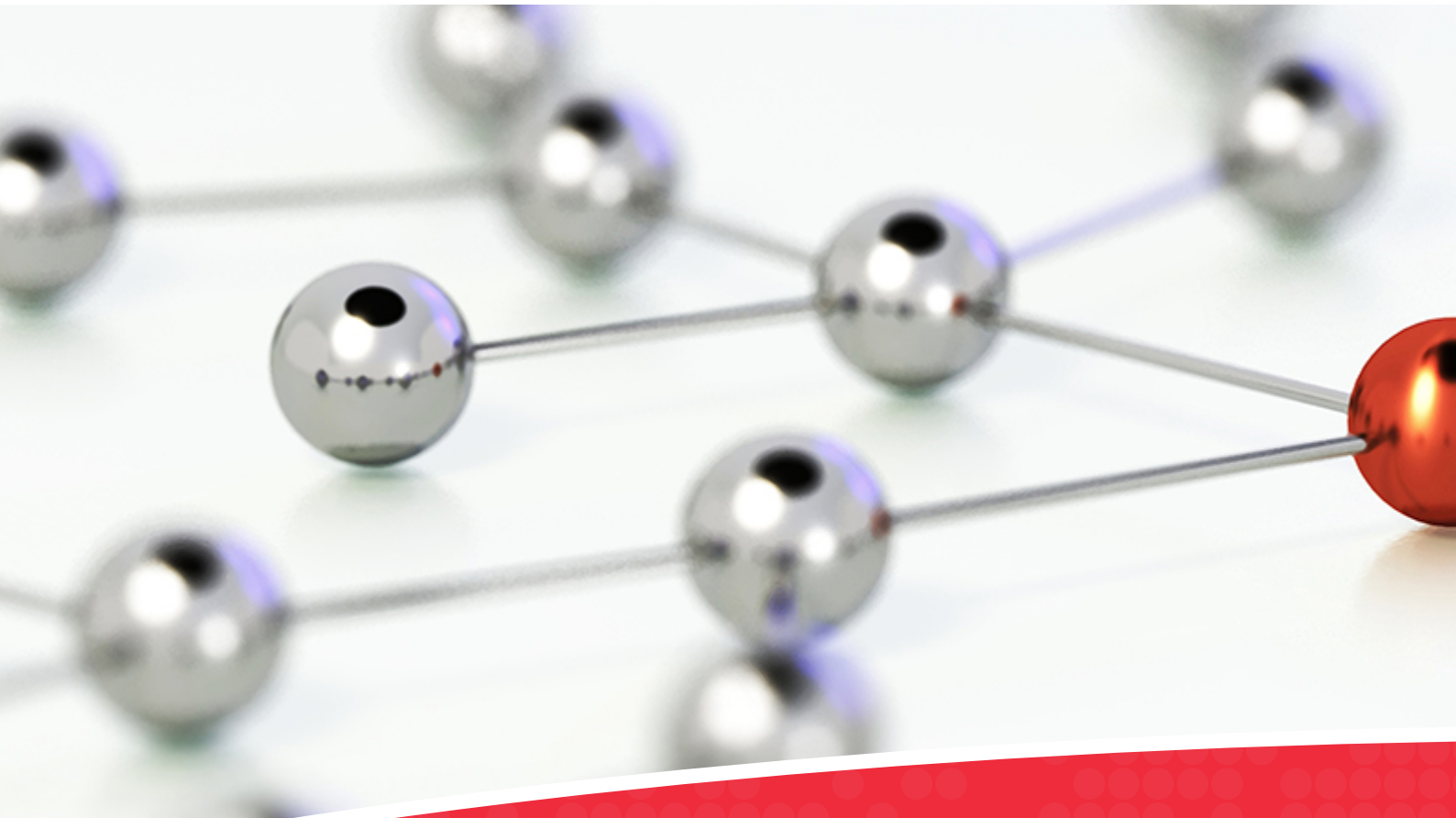
It can be concluded from the survey, personal talks and experience from Joint Project Meetings (JPM) that there is a suitable kind of communication for each phase of the project.

Cooperation between industry and hospitals will not become easier in the future due to regulations (legal and compliance reasons). Therefore, it is important to share the experiences of the pilots, to learn from it and to develop it to a next level. With the new MDR, manufacturers are even more dependent on the cooperation and support of hospitals.

In summary, the companies and hospitals appreciate the mutual cooperation despite the adversities that have occurred with the pilots. The strengths of cooperation as listed by some participants in chapter 4.5.2 must be further strengthened in the future. A mutual understanding of each other's work is needed and if there are additional innovative projects, in which companies and hospitals can work together, then this will benefit all partners. In the end, the capacity as innovation infrastructure has improved for all parties involved.

## 6. ABBREVIATIONS AND TERMS

ABBREVIATION/TERM	DESCRIPTION
BFCC	Baltic Fracture Competence Centre
BSR	Baltic Sea Region
CMD	Common minimal data set
IT	Information Technology
JPM	Joint Project Meeting
MDR	Medical Device Regulation
R & I	Research and Innovation
TFRP	Transnational Fracture Registry Platform
WP	Work Package



## 7. LIST OF LITERATURE

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BFCC—Website (2018).

BFCC—Application form Version 18.

## 8. LIST OF FIGURES

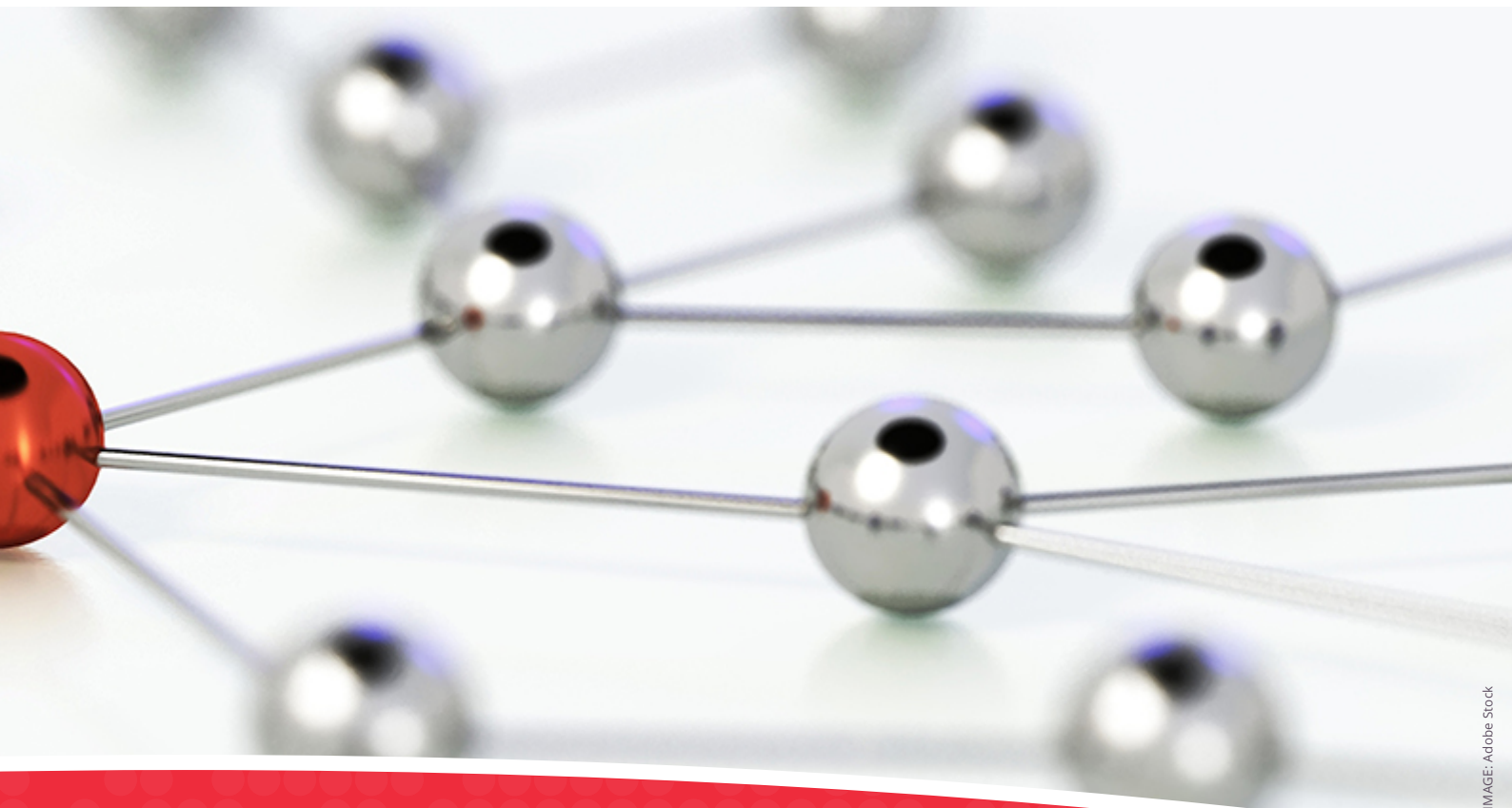
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## KEY FACTS

- Duration: 36 months (2016–2019)
- Total budget: about EUR 3.6 million
- Programme: Interreg Baltic Sea Region
- Fund: European Regional Development Fund
- Flagship project of the EU Baltic Sea Region strategy

## PROJECT PARTNERS

- Life Science Nord Management GmbH (Germany; Lead Partner)
- Stryker Trauma GmbH (Germany)
- University Medical Center Schleswig-Holstein (Germany)
- University Medicine Greifswald (Germany)
- Sahlgrenska University Hospital (Sweden)
- ScanBalt fmba (Denmark)
- Lithuania University of Health Sciences (Lithuania)
- LifeScience Krakow Klaster (Poland)
- University Hospital in Krakow (Poland)
- University of Tartu (Estonia)
- Tartu Biotechnology Park (Estonia)
- Bone Index Finland Ltd. (Finland)
- BONESUPPORT AB (Sweden)



[www.bfcc-project.eu](http://www.bfcc-project.eu)