Indicator Monitoring for a new railway PAradigm in seamlessly integrated Cross modal Transport chains – Phase 2

Deliverable D9.1

Data Management Plan

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Abbreviations and acronyms

Abbreviation / acronym	Description
CA	Collaboration Agreement
CCA	Cross Cutting Activity
DoA	Description of Action
DMP	Data Management Plan
GA	Grant Agreement
IMPACT-2	Indicator Monitoring for a new railway PAradigm in seamlessly integrated Cross modal Transport chains – Phase 2
JU	Joint Undertaking
KPI	Key Performance Indicator
OC	Open Call
PM	Project Manager (coordinator)
TMT	Technical Management Team
S2R	Shift2Rail
SPD	System Platform Demonstrator
WP	Work Package

1 Executive summary

The purpose of the Data Management plan is to describe the processes in place for securing proper and safe handling of data during and after closure of the project.

The document is divided into the following chapters:

Chapter 1: "Executive Summary" (this chapter)

Chapter 2: "Background"
Provides the context of the contents, specifically with respect to the scope, Grant and Consortium Agreements

Chapter 3: "Objectives / Aims"
Defines the purpose and scope of the Data Management Plan (DMP)

Chapter 4: "Information Management & Policy"
Identifies the context of the data management within the IMPACT-2 domain.

Chapter 5: "Data Archiving and Preservation"
Identifies the procedures to be used for archiving, preservation and disposal of data.

Chapter 6: "File naming conventions"
Describes the file naming convention for datasets filenames and the associated coding for inclusion in archiving extracts and future dissemination classification.

Chapter 7: "Conclusions"

Chapter 8: "References"
Reference documents governing the execution of IMPACT-2.

Chapter 9: "Antitrust statement"

2 Background

This document corresponds to Deliverable D9.1 "Data Management Plan (DMP)" for the project IMPACT-2 which was submitted in response to the EU S2R JU 2017 call for members (proposal nr 777513). The GA was negotiated and closed during the summer 2017 with official project start 1st of September 2017. The consortium is made up of 13 members.

No	Name	Short name	Country	Project entry month[8]	Project exit month
1	TRAFIKVERKET - TRV	TRV	Sweden	1	60
2	DEUTSCHES ZENTRUM FUER LUFT - UND RAUMFAHRT EV	DLR	Germany	1	60
3	ANSALDO STS S.p.A.	ANSALDO	Italy	1	60
4	BOMBARDIER TRANSPORTATION SWEDEN AB	BOMBARDIER SWE	Sweden	1	60
5	Construcciones y Auxiliar de Ferrocarriles Investigación y Desarrollo, S.L.	CAF I+D	Spain	1	60
6	CP - COMBOIOS DE PORTUGAL EPE	CP Comboios PT	Portugal	1	60
7	DEUTSCHE BAHN AG	DB	Germany	1	60
8	HACON INGENIEURGESELLSCHAFT MBH	HACON ING. mbH	Germany	1	60
9	INDRA SISTEMAS SA	INDRA	Spain	1	60
10	SIEMENS AKTIENGESELLSCHAFT	SIE	Germany	1	60
11	SNCF	SNCF	France	1	60
12	THALES GROUND TRANSPORTATION SYSTEMS UK LTD	THALES	United Kingdom	1	60
13	TURKIYE CUMHURIYETI DEVLET DEMIR YOLLARI ISLETMESI GENEL MUDURLUGU	TCDD	Turkey	1	60

Table 1: IMPACT-2 members

IMPACT-2 has 9 WPs

WP1 Management (TRV lead)

WP2 Analysis of the Socio-economic impact (DB AG lead)

WP3 SPD Implementation (TRV lead)

WP4 KPI tree (DLR lead)

WP5 Standardisation (SNCF lead)

WP6 Smart maintenance (DB AG lead)

WP7 Integrated Mobility (BT lead)

WP8 Human Capital (DB AG lead)

WP9 Dissemination (TRV lead)

The purpose of the DMP is to outline the policy for handling and storage of data during the project and after its closure. Detailed descriptions on approved or disapproved types of data or files are outside the scope of this DMP. Furthermore, the DMP policy set out in this document should be seen as complementary and not in conflict with relevant sections in the CA or policies in place by the beneficiaries.

The project addresses WA1, WA2, WA3, WA4 and WA6 in the MAAP.
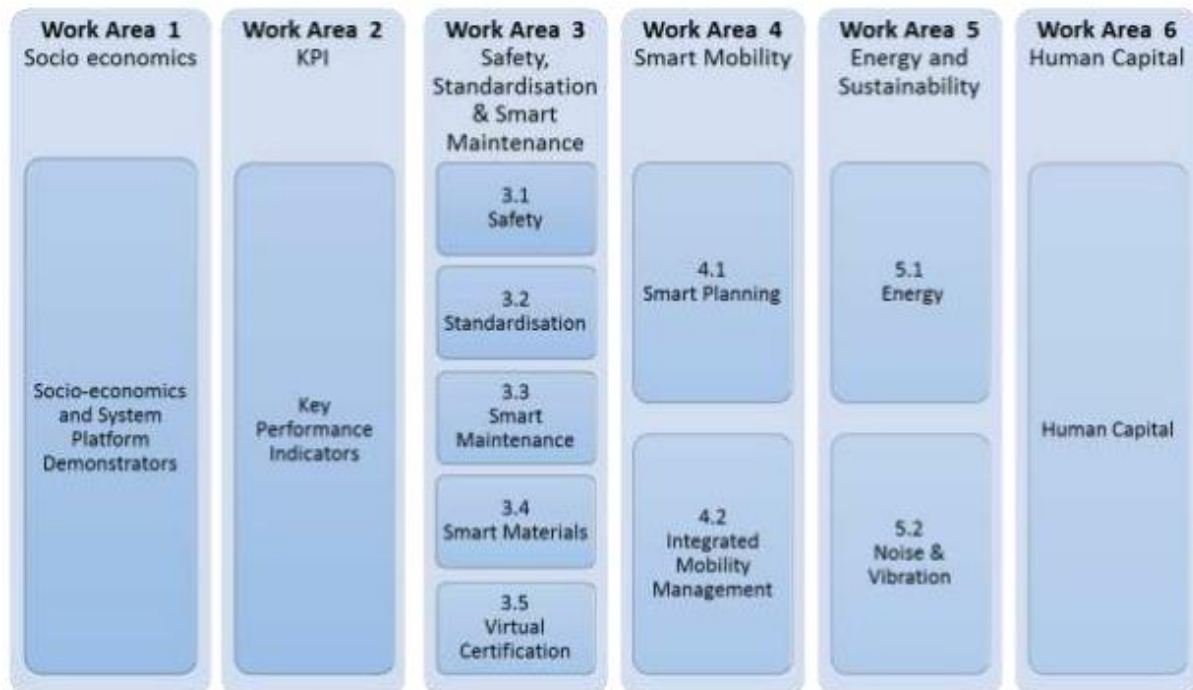

Figure 1: Overview Work Areas

3   Objectives / Aims

This document has been prepared to provide an instruction for how to handle data in a safe, secure and legally correct way. This is of utmost importance for the quality and integrity of the project results. IMPACT-2 will provide answers to the following objectives:

- Evaluating the effects for mobility, society and environment induced by new technology solutions and developments
- Introducing relevant targets and needs to create a more attractive, a more competitive and a more sustainable rail system
- Defining System Platform Demonstrators (SPD) that represent future application use cases
- Defining Key Performance Indicators (KPIs) that enable the assessment of the Shift2Rail overall target achievement
- Smart maintenance concept for the whole railway systems which includes Condition Based Maintenance for passenger trains and integrated infrastructure & rail-vehicle data management
- Advanced business Service applications to be integrated in the Traffic Management process
- They cover new business software for freight operations to improve freight resource management and processes; crew and vehicle dispositions
- The railway staff using the S2R technologies need to be prepared and trained and the organisations need to be adopted for the faster evolution of technology in the future. A concept of the management of these changes on the human capital side (e.g. change in job profiles, skills and organisation) will be drafted.

Trends, scenarios and socio economic impact assessments will address societal values of S2R whereas the KPI model focusses on S2Rs operational targets i.e. step change improvements in costs, capacity and reliability. Both levels interact during the course of the project. Exchange of data between the WPs will be a key element for the successful running of IMPACT-2.
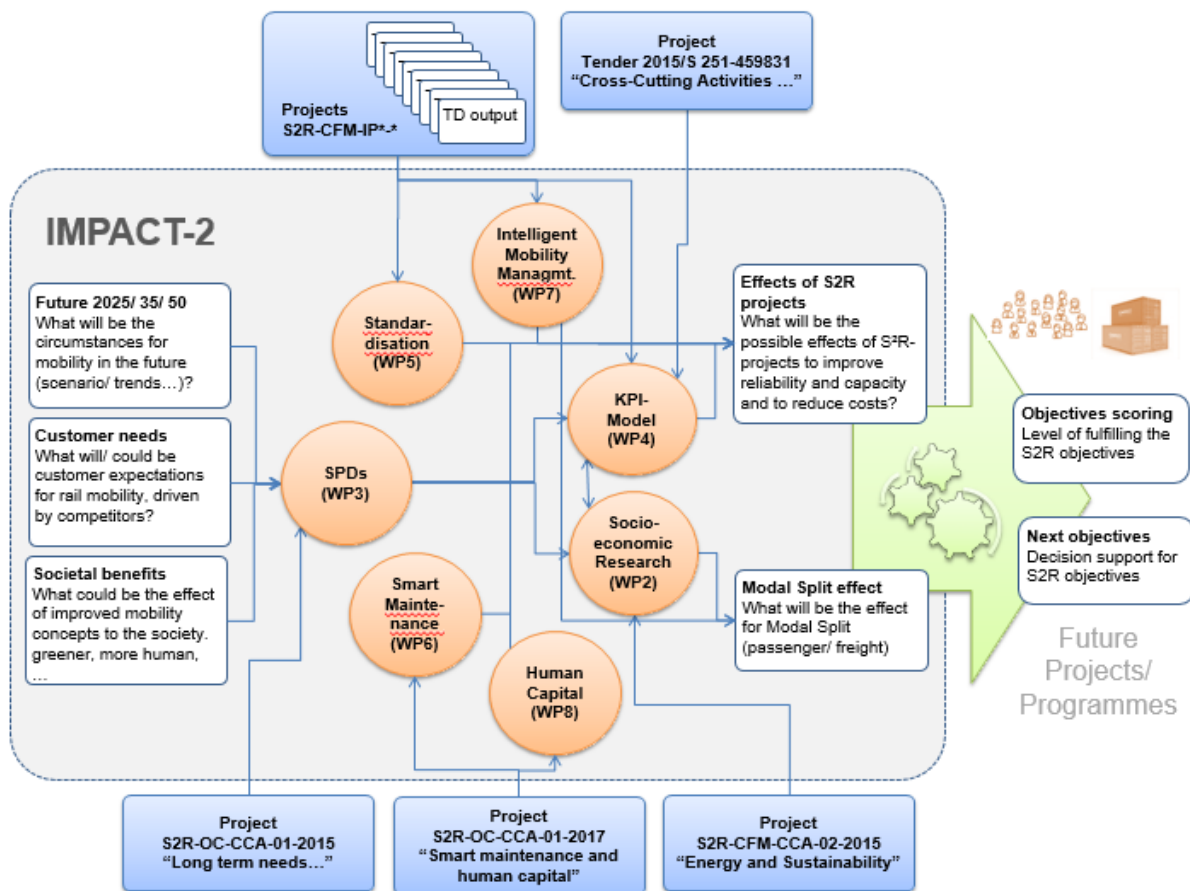
Figure 2 IMPACT-2 General concept

The aim of the DMP is to control and ensure quality of project activities and to effectively and efficiently manage the data generated within IMPACT-2. It also describes how data will be collected, processed, stored and managed including aspects like external accessibility and long term archiving.

4 Information Management & Policy

Information management is the discipline by which information is managed within an organisation. It covers collection, ownership, archiving and disposal. Information management is also a dissociated part of management and governance of companies and projects. This document does not intend to in depth go through theoretical concepts of information management layers or architectures. The purpose is to highlight the practical handling of data in IMPACT-2 so it adequately deals with company concerns about data that may be commercially sensitive but responds to the need for dissemination of project results at conferences, academic papers and the like.

The DMP has been developed to address the following management and policy objectives:

- Comply with participating companies commercial interests whilst at the same time allowing project activities to be carried out necessary for a successful completion of deliverables.
- Guaranteeing adequate quality of data
- Fulfil required storage of technical and financial data as requested by the H2020 rules and the CA
- Allow the coordinator and the steering committee to get timely and accurate information on the progress of individual tasks, milestones and deliverables

4.1 DMP – handling of data

The purpose of the DMP is to make sure that handling of data is done in a way that safeguards quality, storage and confidentiality requirements. Overseeing the appropriate handling of data for modelling and dissemination of project results is a key management activity for the TMT which is composed of DLR, ASTS, BT, CAF, DB, SNCF and TRV

Adequate handling of data is key to the successful completion of IMPACT-2. The project will be dependent on gathering data from the other IPs and it will generate data of importance not only for IMPACT-2 but for the S2R endeavour itself. In particular the data "heavy" WPs handling of the data is described below:

4.1.1 WP1 Management, Lead TRV

WP1 deals exclusively with management and coordination of the project. No issues concerning collection, safe storage, quality of data or Meta data are explicitly handled in WP1.

4.1.2 WP2 Analysis of the Socio-economic impact, Lead DB AG

All data and documents produced within the IMPACT-2 project are stored and exchanged via the EC cooperation tool. The confidentiality of these data and of the content is covered by the Grant Agreement, the Consortia Agreement and the nondisclosure statement of the S2R partners.

4.1.3 WP3 SPD Implementation, Lead TRV

All data and documents produced within the IMPACT-2 project are stored and exchanged via the EC cooperation tool. The confidentiality of these data and of the content is covered by the Grant Agreement, the Consortia Agreement and the nondisclosure statement of the S2R partners.

Data that is provided by the IPs and SPDs as input for mode choice modelling is covered by the nondisclosure statement and confidentiality agreements of the S2R partners.

Location of digital data: Data is stored in a folder on a VTI server, for which backup is made every night. In case of analogue data this is stored in locked cabinets.

4.1.4 WP4 KPI tree, Lead DLR

Project management and project content related data and files: All data and files directly related to the project IMPACT-2 are stored and exchanged via the EC cooperation tool. The confidentiality of these data and of the content is covered by the Grant Agreement, the Consortia Agreement and the nondisclosure statement of the S2R partners.

Data that is provided by the IPs, TDs or SPDs as well as any other input for the KPI development and calculation: All data is stored in a folder on a DLR server, for which backup is made every night. The confidentiality of this data is covered by the nondisclosure statement and confidentiality agreements of the S2R partners.

4.1.5 WP5 Standardisation, Lead SNCF

Data exchange between SNCF and DB concerning Standardisation-data is done via Email and stored in the EC cooperation tool. Row data provided by the IPs, TDs and Shift2Rail project teams and any input to the Standardisation roadmap and standardisation development plan are stored in the EC cooperation tool.

The confidentiality of these data and of the content is covered by the Grant Agreement and the Consortia Agreement.

4.1.6 WP6 Smart maintenance, Lead DB AG

All data and files directly related to the project IMPACT-2 WP 6 are stored and exchanged via the EC cooperation tool. The confidentiality of these data and of the content is covered by the Grant Agreement, the Consortia Agreement and the nondisclosure statement of the S2R partners

The CBM-data provided by IMPACT-2 partners should only be used within the S2R project by the participants of WP 6. The data should not be shared with other persons or third parties. The use of the data for public deliveries requires the agreement of the partner who provides the data.

4.1.7 WP7 Integrated Mobility, Lead BT

In WP7 communication between the involved partners will be done by mail and via on-line sessions. Pre-Drafts of the deliverables, templates and other administrative documents will be distributed and stored via the tool.

Four Face2Face (F2F) Progress Review meetings are scheduled for 2018 to cover for critical technical discussions and reviews. The number of F2F meetings will be strongly reduced when entering in the phase of no-collaborative development of the proposed prototypes.

4.1.8 WP8 Human Capital, Lead DB AG

Data exchange between DB and SNCF/CP concerning Human Capital-data is done via Email. The confidentiality of these data and of the content is covered by the Grant Agreement and the Consortia Agreement.

4.2 Data types

The minimum requirement on data handled in the S2R collaboration tool is, that it is equitable with the descriptions of the annex 1 in the GA (DOA) that is data types covering the tasks involved in carrying out the project.

4.3   Data quality

The responsibility for gathering data to be used for the creation of scenarios, SPDs, KPI models and the like is delegated to the parties involved in the corresponding tasks. Routine academic quality measures should be applied by all parties in establishing quality and when relevant integrity.

4.4   Data sharing

The following system for classification of data sets will be used:
- CO0 – do not use the information as a reference or as a source for the project. Information will be only provided for controlling / checking and "fine-tuning" of tools. Information / Data shall not be used for sharing between the project partners. (Example: sensitive economic company owned data for the validation of the KPI-tool)
- CO1 - confidential level 1: data shall not be shared at any time during or after the project outside the original work package members
- CO2 - confidential level 2: data shall not be shared outside the consortium members
- CO3 - confidential level 3: data can be shared outside the consortium without restriction

4.5   Data rights

Users of the S2R collaboration tool will have different access rights based on their contribution and role within the project. In order to secure that relevant user get access to read / edit and add information the following access rights are available and should be used accordingly:

Guest
This is an observer role, with no activity but with the capacity to download. Guest rights give access to all documents and meetings with Access field marked as "Guest" in the tool (i.e. documents and meetings with access flagged with higher rights will not be visible for Guests).

Limited user
This is an active role but for those with limited activity attributed (not as active as a User) and with the capacity to download.

User
This is a role for members actively contributing in a "domain", enabling them to upload new documents.

Power user
This role has the same rights as User and, in addition, is able to create meetings.

Domain Administration
This role is assigned to leaders of domain. In addition to the Power User, the Domain Admin can:
- Manage user rights within the domain;
- Change documents Status to "Issued", confirming that the peer review process is completed;
- Create and manage action points from meeting.

Project administration
The IMPACT-2 Project coordinator has overall project administration rights, enabling to administrate the complete project.
- The same applies to the S2R JU Groups' coordinators concerning the S2R JU Group's database

5 Data Archiving & Preservation

5.1 Archiving

At the formal project closure all the data material that has been collected or generated within the project and registered in the S2R collaboration tool and classified for archiving shall be copied and transferred to a digital archive of the S2R collaboration tool. The JU S2R is responsible for its adequate long term preservation as well as maintaining a system for queries and retrievals for as long as the data files are to be kept. The relevant data created by each IMPACT-2 project partner and not stored within the S2R collaboration tool will be archived by each responsible partner.

Recording and archiving of audio or visual data files as well as personal data will need written approval by the concerned subjects and is subject to the responsibility of the collecting organisation.

5.2 Confidentiality

Information shall only be made available to those who are authorised to access it. Information Owners are accountable for defining access to the information they own. To safeguard and prevent unauthorised access to information, Information Owners shall classify and govern information in accordance with the data set classification taxonomy described in the previous chapter and respecting commitments in the CA. The procedures implemented for data collection, storage, protection, retention and destruction comply with the EU Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data and Section 5 of the German Federal Data Protection Act of 22 May 2001 (BDSG).

5.3 Data integrity

Data and information owners overseen by the TMT (DLR, TRV, BT, CAF, SNCF and DB) are responsible for the level of protection required against unauthorised or accidental changes. An additional "quality" assurance is provided by scientific peer reviews of articles and papers that come out of the project. Information shall be protected against loss or damage until it is no longer required to be retained for audits by the EU. Further keeping of records are subject of negotiations with TRV and the party requesting such archiving.

5.4 Cyber security

All information flagged for archiving shall be screened for malware infestation before entering the S2R collaboration tool repository.

6 File Naming Conventions

6.1 Document code structure:

All files irrespective of the data type shall be named in accordance with Cooperation Tool document coding rules.

Whenever a new document is produced within the project, it must be uploaded on the Cooperation Tool. When a document is uploaded, a unique document code is assigned. The following subsections describe how this identification code is structured and set up.

The identification code contains the six following sections:

[Project] – [Domain] – [Type] – [Owner] – [Number] – [Version]

where:

- [Project] is IMP2 for all IMPACT-2 documents;
- [Domain] is the relevant domain in the Cooperation Tool (WP, Task or project body);
- [Type] is one letter defining the document category;
- [Owner] is the trigram of the deliverable/document leader organisation;
- [Number] is an order number allocated by the Cooperation Tool when the document is first created.
- [Version] is the incremental version number, automatically incremented at each upload.

Examples:

Project Code	-	Domain (3-4 characters)	-	Type (1 letter)	-	Owner (3 letters)	-	Number (3 digits)	-	Version (2 digits)
IMP2	-	TMT	-	B	-	TRV	-	001	-	01
IMP2	-	SC	-	T	-	SIE	-	002	-	03
IMP2	-	WP1	-	P	-	CAF	-	003	-	02

6.2 Documents type

When creating a document in the Cooperation Tool, the type of document in the section "Specific Information" should be selected. This information will be used to set up the identification code. Documents are classified among the following types:

Letter	Name	Description
A	Administrative	Any administrative document except contractual documents
B	Meeting Agenda, Presentation or Minutes	Meeting Agenda, Presentation or Minutes
C	Contractual document	Consortium Agreement, Grant Agreement and their approved amendments
D	Deliverable	Deliverable identified as such under the Grant Agreement
E	EC document	Document provided by JU (general rules, guidelines or JU experts documents)
I	Internal	Document not to be circulated to outside the project
J	Publication	Document accessible to the public
M	Model (template)	MS-Office document templates
P	Periodic Report	All intermediate/periodic reports except those listed as deliverables. May be a WP intermediate report or a project intermediate report requested by the Grant Agreement but not listed as deliverable.
R	Deliverable Review Sheet	Filled review sheet used to gather peer review comments on a deliverable. It can be also used to comment any other internal document when explicitly agreed or requested by its owner.
S	Risk Sheet	Filled risk sheet
T	Technical contribution	Technical document contributing to a task/deliverable but not part of the deliverable
W	Proposal	Proposal for changes to the Consortium Agreement or Grant Agreement
X	External document	Document produced by non-members of the project (e.g. papers, reports, external public deliverables…) that, upon authorisation of the author(s), are shared with the project due to its relevancy.

6.3 Document´s status

A status is associated to each step of the document lifecycle:

- Draft: the document is under development by one or several partners
- Under review: the document is made available within the project/WP/task for peer review
- Issued: the document is ready for submission to the JU
- Obsolete: the document is withdrawn (cancelled or superseded).

7 Conclusions

This report should be read in association with all the referenced documents including the GA, CA and H2020 anointed model agreement, annexes and guidelines.

The report will be subject to revisions as required to meet the evolving needs of the IMPACT-2 project and will be formally reviewed at month 6 and 12 to ensure it is fitting for purpose.

8 References

[1]   Grant Agreement IMPACT-2
[2]   Consortium Agreement IMPACT-2
[3]   EU Directive 95/46/EC on the protection of individuals with regard to the processing of personal data and on the free movement of such data
[4]   H2020 AGA — Annotated Model Grant Agreement: V2.2 – 25.11.2016

9 Antitrust Statement

While some activities among competitors are both legal and beneficial to the industry, group activities of competitors are inherently suspect under the antitrust/ competition laws of the countries in which our companies do business.

Agreements between or among competitors need not be formal to raise questions under antitrust laws. They may include any kind of understanding, formal or informal, secretive or public, under which each of the participants can reasonably expect that another will follow a particular course of action or conduct. Each of the participants in this initiative is responsible for seeing that topics which may give an appearance of an agreement that would violate the antitrust laws are not discussed. It is the responsibility of each participant in the first instance to avoid raising improper subjects for discussion, notably such as those identified below.

It is the sole purpose of any meeting of this initiative to provide a forum for expression of various points of view on topics
- (i) that are strictly related to the purpose or the execution of the initiative,
- (ii) that need to be discussed among the participants of the initiative,
- (iii) that are duly mentioned in the agenda of this meeting and
- (iv) that are extensively described in the minutes of the meeting.

Participants are strongly encouraged to adhere to the agenda. Under no circumstances shall this meeting be used as a means for competing companies to reach any understanding, expressed or implied, which restricts or tends to restrict competition, or in any way impairs or tends to impair the ability of members to exercise independent business judgment regarding matters affecting competition.

As a general rule, participants may not exchange any information about any business secret of their respective companies. In particular, participants must avoid any agreement or exchange of information on topics on the following non-exhaustive list:

1. Prices, including calculation methodologies, surcharges, fees, rebates, conditions, freight rates, marketing terms, and pricing policies in general;
2. any kind of market allocation, such as the allocation of territories, routes, product markets, customers, suppliers, and tenders;
3. production planning; marketing or investment plans; capacities; levels of production or sales; customer base; customer relationships; margins; costs in general; product development; specific R&D projects;
4. standards setting (when its purpose is to limit the availability and selection of products, limit competition, restrict entry into an industry, inhibit innovation or inhibit the ability of competitors to compete);
5. codes of ethics administered in a way that could inhibit or restrict competition;
6. group boycotts;
7. validity of patents;
8. on-going litigations.