

Terms of Reference for the NAFEMS Simulation Data Management Working Group (SDMWG)

1 TECHNICAL AREA COVERED BY THE GROUP

Engineering simulation data encompasses the input data, models, processes, documents and metadata intrinsic to performing modelling, simulation, and analysis. Simulation Data Management (SDM) provides for the management of data objects and metadata at all levels of granularity and abstraction, including the simulation context (e.g. requirements, material, design data and parameters) analysis parameters, models, intermediate files, documents and results with traceability. SDM solutions may be integrated with other systems and databases (e.g., PDM, MDM, PLM) that manage material, engineering, and product data. SDM solutions are available and enable the management of a wide range of modelling and simulation data including the process record, across the breadth of digital engineering disciplines (e.g. digital twins, data driven methods), supporting a heterogeneous analysis environment at all scales and stages throughout the product life cycle. Integration of design, physical test, and manufacturing data with modelling, simulation and analysis may be supported. The Working Group is concerned with the design, architecture, development and deployment of SDM solutions and associated linkages.

2 STRUCTURE OF THE WORKING GROUP

The SDMWG is expected to maintain a membership of individuals with a high level of expertise in SDM and associated technologies. These members contribute their time and knowledge on a voluntary basis.

The SDMWG is supported by multiple Focus Teams. The structure of the SDMWG as of April 2024 is shown in Addendum 1.

The main communication channel for the SDMWG is the NAFEMS SDM Community. The SDM Community consists of individuals who are NAFEMS members who have an interest in SDM but are not necessarily experts in this area. The SDMWG organises meetings with the SDM Community to keep them informed of developments in the field of SDM and to make the community aware of the activities that are being carried out by the SDMWG. At the discretion of the SDMWG chair individuals who are not part of the SDM community can attend community meetings. All members of the SDMWG are considered to be part of the SDM community.

2.1 RESPONSIBILITIES OF THE SIMULATION DATA MANAGEMENT WORKING GROUP

The responsibilities of the SDMWG include:

- Maintaining the membership of the SDMWG.
- Creating and disbanding short-term and standing Focus Teams.
- Coordinating the activities of the Focus Teams. The SDMWG provides the platform to share updates on the activities of each Focus Team. The SDMWG should ensure that good ideas and

lessons learned from one Focus Team translate across the whole SDMVG. The SDMVG will ensure that the guidance developed by each Focus Team is produced in a consistent fashion.

- Ratifying the priorities of the Focus Teams.
- Reviewing the scope and objectives of Focus Team outputs.
- Leading and enabling the creation of SDM guidance.
- Approving the outputs produced by the SDMVG and Focus Teams.
- Identifying the needs and communicating with the SDM Community.
- Identifying and managing collaborating with relevant external organisations e.g. ISO
- Abiding by the [NAFEMS Code of Conduct for Volunteers](#).

The outputs of the SDMVG are created by both current working group members and external experts from the wider community. Where an output is produced by an external expert, the SDMVG is responsible for ensuring that the output is technically accurate and relevant to the NAFEMS membership.

2.2 RESPONSIBILITIES OF THE FOCUS TEAMS

The responsibilities of a SDMVG Focus Team include:

- Maintaining the membership of the Focus Team.
- Leading the creation of SDM resources that fall within the scope of the Focus Team.
- Reviewing the outputs created by the Focus Team.

3 SDMVG BYLAWS

3.1 SDM WORKING GROUP

- The number of members on the SDMVG should ideally range from between 10-20.
- The chair of each Focus Team is considered to be a member of the SDMVG.
- Members of the SDMVG are listed on meeting minutes as present, sent apologies or absent.
- If a member of the SDMVG does not contribute, their membership can be terminated at the discretion of the SDMVG chair.
- At least two-thirds of the SDMVG membership should be affiliated with a NAFEMS member organisation.

3.2 FOCUS TEAMS

- Focus Teams consist of individuals drawn from the SDMVG and the SDM Community.
- Focus Teams chairs are required to provide regular updates to the SDMVG.

3.3 SDMVG & FOCUS TEAMS

The following clauses are applicable to both the SDMVG and Focus Teams:

- At the discretion of the chair of the SDMVG/Focus Team, participation may be represented by one of two or three individuals from the same organisation to reduce the workload on individuals.
- The SDMVG and each Focus Team should aim to meet at least 4 times per year.

- The primary method of meeting will be via a web-based platform to enable international involvement in the group. The SDMVG is encouraged to take advantage of major NAFEMS or industry events to meet in person. Where a physical meeting is scheduled, attempts should be made to provide a web-based connection to the meeting to allow participation of those who are not able to attend the meeting in person.
- Agenda for upcoming SDMVG meetings are ideally distributed two weeks prior to the upcoming meeting.
- Minutes will be taken for all SDMVG meetings and actions will be identified. The minutes should be circulated within a month (ideally less) of a meeting date. Minutes of past meetings are stored on the SDMVG google drive.
- The membership of the SDMVG is held by the Technical Team and is available to view on the NAFEMS website.
- Contributions from SDMVG/Focus Team members can include:
 - a. significantly participating in discussions or other activities via the collaboration tools
 - b. attending and actively participating in working group meetings,
 - c. sending relevant comments or reports on agenda items to the chair in good time for the meeting,
 - d. volunteering for and performing actions arising from the meetings,
 - e. reviewing journal papers.

3.4 JOINING THE SDMVG

- Potential new members should submit a curriculum vitae, or other summary of background/experience, to the NAFEMS Technical Working Administrator (TWGA) indicating their knowledge and experience in the area of SDM.
- Applicants seeking to join the SDMVG will have their application reviewed by the current SDMVG members. Applicants seeking to join a Focus Team will have their application reviewed by the members of the appropriate Focus Team.
- If approved, the applicant will be invited to attend meetings and participate. It is expected that all SDMVG and Focus Team members hold a senior technical position and have significant expertise in the area of SDM.

3.5 LEADERSHIP ROLES

- The position of SDMVG chair is open for review every three years on the anniversary of the initial appointment. There is no requirement for the role to be rotated. Only current members of the SDMVG may vote. Only current SDMVG members can be nominated for the chair role.
- The chair of the SDMVG should ideally be an industrial user of SDM technology.
- The chair of the SDMVG will be assisted by a vice chair to be appointed by the current SDMVG members. Only current SDMVG members are eligible for the vice chair role. The vice chair will be expected to support the chair as required, including chairing meetings when necessary, participating in group tasks and taking a share in the responsibility for helping the group to achieve its objectives. The vice chair is expected to attend the majority of SDMVG meetings and to allocate adequate time for preparation of chairing a meeting or leading a group discussion/task.
- The SDMVG chair and vice-chair are members of the NAFEMS Technical Liaison Group.

3.6 DECISION MAKING

- When a vote is required, it will be carried out via email or a web-based survey tool.
- Only current members of the SDMWG/Focus Teams are allowed to vote. Each organisation that has a representative in the working group will have one vote. If an organisation has more than one person participating in the working group, the vote will be shared between the participants.
- If required, the casting vote will be held by the SDMWG chair or the Focus Team chair, as appropriate.

3.7 COMMUNICATION

SDMWG communication is carried out using the relevant group email address (see Addendum 1).

The SDMWG and Focus Teams are encouraged to communicate regularly with the wider SDM Community by using the forums on the NAFEMS website.

It is the responsibility of the NAFEMS TWGA to ensure that the SDMWG email distribution list is current. It is the responsibility of all SDMWG members to notify the TWGA of any change to their email address or organisation.

Personal distribution lists are discouraged as they require constant updates.

3.8 PRESENTATION GUIDELINES

SDM Community Meetings are recorded, both video and audio. Meeting recordings will be made available to SDM Community members unless prior arrangements are made. Presentations should be biased to an audience of individuals from the engineering and IT community interested in the use or application of Simulation Data Management. Presentations should be focused on the technical aspects of the solution offering and not on promoting a specific software product. When possible, vendor presentations should cite a real-world use case.

4 MEASURES OF SUCCESS

The success of the SDMWG will be measured in terms of:

- SDMWG outputs include but are not limited to:
 - o Resources relating to SDM including but not limited to:
 - Publications / Presentations
 - Papers
 - Webinars
 - o Supporting events such as Webinars, Seminars and Conferences
 - o Training Courses
- SDMWG Activity & Engagement including but not limited to:
 - o Number of SDMWG meetings
 - o Number of attendees per meeting
 - o Percentage of SDMWG members who attended meetings in the last 12 months
 - o Proportion of members retained from year to year
 - o Number of new membership enquiries



5 RESOURCE REQUIREMENTS

The SDMWG is administered by the NAFEMS Technical Working Group Administrator (TWGA).

Logistical support for the group, consisting of providing a web-based meeting platform, scheduling meetings, minute-taking and web-hosting of working group output is provided by NAFEMS.

Funding is available from NAFEMS to support the development of working group outputs. This funding can take the form of contracts for authors and contracts for the individuals tasked with reviewing. Applications for funding should be made to the NAFEMS Chief Technical Officer.

6 DURATION

The SDMWG will continue in perpetuity until terminated by the NAFEMS CEO.

7 APPROVAL

T.R. Mong

CEO, NAFEMS

13 / 06 / 2024

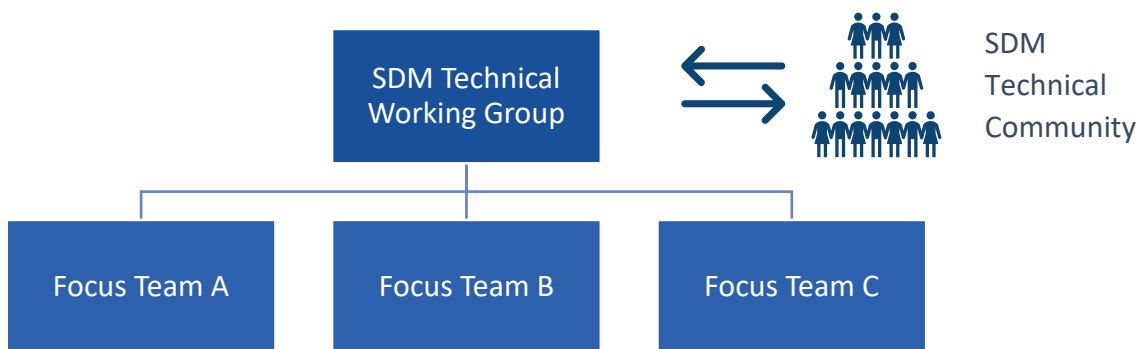
Date

Addendum 1

WORKING GROUP EMAIL ADDRESS

- SDMVG – sdmwg@nafems.org

SDMVG STRUCTURE



ROLES & RESPONSIBILITIES

SDMVG / Focus Team Members

Responsible for:

- identifying the outputs and supporting the activities of the working group
- ensuring that SDMVG output is technically accurate and relevant to the NAFEMS membership
- regularly contributing to SDMVG activities. Contributions can include:
 - o attending and actively participating in working group meetings;
 - o participating in topic discussions and activities between meetings
 - o sending relevant comments or reports on agenda items to the chair in good time for the meeting;
 - o volunteering for and carrying out actions arising from the meetings including developing outputs, reviewing resources, authoring invitations to tender etc.
- ensuring their contact email address and organisation affiliation are kept up-to-date by notifying the Technical Working Groups Administrator (TWGA) of any change.

SDMWG Chair

Responsible for:

- providing leadership to the SDMWG
- acting as the focal point for the SDMWG
- ensuring that meetings are run effectively.

SDMWG Vice Chair

Responsible for:

- supporting the chair of the SDMWG
- chairing the SDMWG in the absence of the chair.

NAFEMS Technical Working Group Administrator

Responsible for:

- acting as the primary point of contact between the SDMWG and NAFEMS
- SDMWG meeting logistics, processing new member requests
- producing the minutes for SDMWG meetings

NAFEMS Chief Technical Officer

Responsible for:

- acting as the NAFEMS point of contact for SDMWG funding
- acting as the NAFEMS point of contact for approving SDMWG output

NAFEMS CEO

Responsible for:

- providing the authority to terminate or request a change of scope for the SDMWG