

# SA5 active work items and study items at SA5#155

The 3GPP SA5#155 t-doc version of the present document captured as [S5-242310](#).

## Progress tracker

UID	Agenda	Name	Acronym	Target Date	% at SA5#153	% at SA5#154	% at SA5#155	WID
1020007	<a href="#">6.19.01</a>	Study on AI/ML management - phase 2	<a href="#">FS_AIML_MGT_Ph2</a>	SA#105 (Sept. 2024)	-	10%	19%	<a href="#">SP-231780</a>
1020019	<a href="#">6.19.02</a>	Study on Management Data Analytics (MDA) - Phase 3	<a href="#">FS_eMDAS_Ph3</a>	SA#105 (Sept. 2024)	5%	10%	70%	<a href="#">SP-231726</a>
1020008	<a href="#">6.19.03</a>	Study on intent driven management services for mobile network phase 3	<a href="#">FS_IDMS_MN_Ph3</a>	SA#105 (Sept. 2024)	-	30%	70%	<a href="#">SP-231737</a>
1020009	<a href="#">6.19.04</a>	Study on closed control loop management	<a href="#">FS_CCLM</a>	SA#105 (Sept. 2024)	5%	10%	40%	<a href="#">SP-231735</a>
1020018	<a href="#">6.19.05</a>	Study on management aspects of Network Digital Twin	<a href="#">FS_NDT</a>	SA#105 (Sept. 2024)	5%	40%	65%	<a href="#">SP-231727</a>
1020010	<a href="#">6.19.06</a>	Study on Cloud Aspects of Management and Orchestration	<a href="#">FS_Cloud_OAM</a>	SA#105 (Sept. 2024)	2%	20%	40%	<a href="#">SP-231781</a>
1020016	<a href="#">6.19.07</a>	Study on Enablers for Security Monitoring	<a href="#">FS_SECM</a>	SA#105 (Sept. 2024)	-	0%	0%	<a href="#">SP-231736</a>

UID	Agenda	Name	Acronym	Target Date	% at SA5#153	% at SA5#154	% at SA5#155	WID
1020011	6.19.08	Study on Service Based Management Architecture enhancement phase 3	FS_SBMA_Ph3	SA#105 (Sept. 2024)	-	10%	45%	SP-231725
1020033	6.19.09	Study on Management of planned configurations	FS_PlanM	SA#105 (Sept. 2024)	-	25%	60%	SP-231721
1020025	6.19.10	Data management phase 2	MADCOL_ph2	SA#108 (June 2025)	-	25%	50%	SP-231746
1020012	6.19.11	Study on data management regarding subscriptions and reporting	FS_Data_SREP	SA#105 (Sept. 2024)	-	20%	60%	SP-231732
1020026	6.19.12	5G performance measurements and KPIs phase 4	PM_KPI_5G_Ph4	SA#108 (June 2025)	-	12%	20%	SP-231747
1020027	6.19.13	5G Advanced NRM features phase 3	AdNRM_ph3	SA#108 (June 2025)	-	5%	15%	SP-231745
1020028	6.19.14	Subscriber and Equipment Trace and QoE collection management	TraceQoE_OAM	SA#108 (June 2025)	-	10%	20%	SP-231748
1020013	6.19.15	Study on Management Aspects of NTN Phase 2	FS_NTN_OAM_Ph2	SA#105 (Sept. 2024)	-	25%	65%	SP-231733
1020014	6.19.16	Study on management of IAB nodes	FS_NR_mobile_IAB_OAM	SA#105 (Sept. 2024)	-	30%	40%	SP-231729
1020017	6.19.17	Study on management aspects of RedCap feature	FS_NR_RedCap_OAM	SA#105 (Sept. 2024)	-	25%	50%	SP-231734

UID	Agenda	Name	Acronym	Target Date	% at SA5#153	% at SA5#154	% at SA5#155	WID
1020020	6.19.18	Study on Enhancement of Management Aspects related to NWDAF Phase 2	FS_NWDAF_OAM_Ph2	SA#105 (Sept. 2024)	-	40%	75%	SP-231724
1020015	6.19.19	Study on Management of Network Sharing Phase 3	FS_NetShare_OAM_Ph3	SA#105 (Sept. 2024)	-	35%	50%	SP-231731
1020021	6.19.20	Study on energy efficiency and energy saving aspects of 5G networks and services	FS_Energy_OAM_Ph3	SA#105 (Sept. 2024)	10%	20%	25%	SP-231723
1020022	6.19.21	Study on Enhanced OAM for management exposure to external consumers	FS_MExpo	SA#105 (Sept. 2024)	5%	10%	50%	SP-231728

## OAM&P Rel-19 topics

### 6.19.01 Study on AI/ML management - phase 2 (FS\_AIML\_MGT\_Ph2)

Overall WI progress: 19%

Progress per Work Task:

- WT-1: 5%
- WT-2: 0%
  - WT-2.1.
  - WT-2.2.
  - WT-2.3.
- WT-3: 0%
  - WT-3.1.
- WT-4: 10%
- WT-5: 10%
  - WT-5.1
- WT-6: 0%
  - WT-6.1

- WT-6.2

Update (at SA5#154):

- Revised SID [S5-241959](#) modifies outputs.

Summary of the progress at this meeting:

- The discussion during this week has evolved around a number of documents submitted addressing the topics listed below:
  - WT-1: Rel-18 leftover including new UCs
    - Terminologies
    - ML Model training
    - AI/ML emulation
    - ML model deployment
    - AI/ML inference
    - AI/ML LCM
  - WT-2: 5GS support for AI/ML-based services
  - WT-4: Learning techniques (Federated Learning, Reinforcement Learning, Distributed Learning, Generative Learning)
  - WT-5: sustainability aspect of AI/ML
    - Energy consumption/Energy efficiency
    - Energy consumption dependency
    - ML model distributed learning
    - ML re-enforcement learning
    - ML model Pre-training/ML model fine tuning
- Some detailed technical discussions were conducted during main, breakout and offline sessions. The group made good progress on the AIML terminologies for Rel-18 which would form the baseline for Rel-19 work.
- For the sustainability aspects of AI/ML discussions were also conducted on the use cases and requirements for Energy saving and Energy efficiency which led to some agreements on some baseline use cases and requirements.
- Discussion on learning techniques helped to bridge some gaps in understanding the use cases and the specific role of management. Some agreements have been reached on Federated learning use case and requirements as well as baseline corresponding potential solutions. The discussion on Pre-training and Fine-tuning use cases progressed but require further discussions in the forthcoming meeting.
- There was no time to discuss in detail the Rel-18 leftover use cases (WT 1.0) contributions – in any case no time unit was pre-allocated for the work task.
- Number of contributions are currently under further discussions and reviews which could lead to some agreements, otherwise the discussion shall continue in the future meetings:
  - S5-243095 Add use case on ML entity distributed training
  - S5-243096 Add use case for ML pre-training
  - S5-243097 Add use case for ML fine-tuning
  - S5-243103 Add use case for management of Federated Learning
  - S5-243105 Add possible solution for management of Federated Learning
  - S5-243107 Management of Reinforcement Learning
  - S5-243111 AIML energy consumption and energy efficiency
  - S5-243112 AIML energy consumption dependencies

Next steps

- Continue the work according to the plan

6.19.02 Study on Management Data Analytics (MDA) - Phase 3 (FS\_eMDAS\_Ph3)

Overall WI progress: 70%

## Progress per Work Task:

- WT-1: 70%
- WT-2: 80%
- WT-3: 70%
- WT-4: 90%
- WT-5: 0%
- WT-6: 60%
- WT-7: 60%
- WT-8: 90%
- WT-9: 60%

## Updates:

- Revised SID [S5-242564](#) adding new WT-9 "Control plane congestion analytics"

## Summary of the progress at this meeting:

- WT-1 Energy efficiency analytics
  - Analytics to support cell-level energy saving
    - Agreed use case and potential requirements
  - Analytics to support beam-level energy saving
    - Agreed use case and potential requirements
  - Analytics to support grouping of cells for energy saving
    - Agreed use case and potential requirements
  - Analytics to predict throughput to support energy saving decisions
    - Agreed use case, potential requirements, and potential solution
- WT-2 End-to-End performance analytics
  - Analytics to recommend placement of edge applications
    - Agreed use case and potential requirements
  - Analytics to predict latency for edge applications
    - Agreed use case, potential requirements, and potential solution
  - Analytics to recommend placement of edge applications
    - Agreed use case, potential requirements, and potential solution
- WT-3 Data correlation analytics
  - Enhance existing analytics by using predicted signal measurements, predicted user speeds and predicted user trajectories
    - Agreed use case, potential requirements, and potential solution
  - Analytics to optimize thresholds
    - Agreed use case, potential requirements, and potential solution
  - Improve analytics to allow synchronized recommendations or sequential recommendations
    - Agreed use case, potential requirements, and potential solution
- WT-4 ATSSS performance analytics
  - Analytics and recommendations on ATSSS rules and N4 rules
  - Agreed use case, potential requirements, and potential solution
- WT-5 Non-3GPP access performance analytics
  - No contributions
- WT-6 UE throughput analytics
  - Network congestion analytics based on UE throughput
    - Agreed use case and potential requirements
- WT-7 Fault management related analytics
  - Improve analytics to help identify the location, cause and impact of faults
    - Agreed use cases and potential requirements

- WT-8 Software Upgrade Validation
  - Add analytics of the impacts of a software upgrade on a network function
    - Agreed use case, potential requirements, and potential solution
- WT-9 Control plane congestion analytics (preliminary before SA approval)
  - Add analytics of control plane congestion
    - Agreed use case and potential requirements

Next steps:

- Add solutions
- Add conclusions and recommendations

### 6.19.03 Study on intent driven management services for mobile network phase 3 (FS\_IDMS\_MN\_Ph3)

Overall WI progress: 70%

Progress per Work Task:

- WT-1: 70%
  - WT-1.1
  - WT-1.2
- WT-2: 95%
  - WT-2.1
  - WT-2.2
- WT-3: 70%
  - WT-3.1
    - WT-3.1.1
    - WT-3.1.2
    - WT-3.1.3
  - WT-3.2
  - WT-3.3
- WT-4: 60%
- WT-5: 30%
- WT-6: 30%

Summary of the progress at this meeting:

- WT-1: The requirements and solution for Enablers for Intent Fulfillment is approved.
- WT-2 : The RadioNetworkExpectation is enhanced to support the UAV pre-flight preparation scenario and MOCN network assurance scenario.
- WT-3:
  - The package of intent negotiation capabilities are approved, including intent feasibility checking, intent exploration, alternatives(including outcomes and impacts) negotiation;
  - Two alternative solution for implicit intent report subscription are approved;
  - The intent handling state is approved.
- WT-4: The requirements and several alternative solutions for intent utility functions are approved.
- WT-5: A DP for intent driven network slice assurance is discussed without agreement
- WT-6: No contribution in this meeting,

Next steps:

- WT-1/2: Add conclusion
- WT-3/4 : Evaluation of alternative solutions
- WT-5/6 : Update the use case, requirements and add the solution.

## 6.19.04 Study on closed control loop management (FS\_CCLM)

Overall WI progress: 40%

Progress per Work Task:

- WT-1: 80%
- WT-2: 10%
- WT-3: 50%
- WT-4: 40%
- WT-5: 40%
- WT-6: 10%
- WT-7: 40%

Summary of the progress at this meeting:

- This meeting discussed and agreed the contributions related to Dynamic CCL creation, Conflict management, CCL scope, Feedback, Historical learning

Next steps

- Work on the solution for remaining topics
- Multi-vendor aspect need to be clarified and defined

## 6.19.05 Study on management aspects of Network Digital Twin (FS\_NDT)

Overall WI progress: 65%

Progress per Work Task:

- WT-1: 70%
- WT-2: 60%

Summary of the progress at this meeting:

- WT-1 Investigate and define the terms related to Network Digital Twin in the 3GPP management system.
  - The DP for relation between NDTs and automation functions have been fully discussed
  - The description of potential NDT use cases has achieved partial agreement.
  - The relation between emulation and simulation has been newly added.
- WT-2 Study scenarios and requirements for the use of NDT, e.g., for verification of the network operations. Scenarios may include RAN optimization and service assurance. Following scenarios and/or solutions were discussed and have achieved partial agreement
  - Using NDT to generate ML training data
  - Nested NDTs
  - Configuration verification
  - Signaling storm analysis
  - Network management policy verification using NDT

Next steps:

- WT-1 : Further discussion and alignment are needed regarding additional definitions of the concept
- WT-2 : Submissions on potential solutions are expected. The relation between NDT and existing NRM/PM/CM etc, as well as existing MnS, requires further study.

## 6.19.06 Study on Cloud Aspects of Management and Orchestration (FS\_Cloud\_OAM)

Overall WI progress: 40%

Progress per Work Task:

- WT-1: 55%
- WT-2: 25%
- WT-3: 0%

Summary of the progress at this meeting:

- WT#1:
  - VNF generic OAM functions and SBMA analysis was agreed.
  - Add Summary of TR 28.834 use cases related to generic OAM functions.
  - Use case on Notification management for the cloud-native VNF.
  - Use case on Software modification management for the cloud-native VNF.
  - Use cases of Cloud-native VNF policy management.

Next steps

- submissions on use cases, potential requirements and solutions expected.

### 6.19.07 Study on Enablers for Security Monitoring (FS\_SECM)

Overall WI progress: 0%

Progress per Work Task:

- WT-1: 0%
  - WT-1.1: 0%
  - WT-1.2: 0%
  - WT-1.3: 0%

Summary of the progress at this meeting:

Next steps (what to expect/to do at the next meeting)

### 6.19.08 Study on Service Based Management Architecture enhancement phase 3 (FS\_SBMA\_Ph3)

Overall WI progress: 45%

Progress per Work Task:

- WT-1: 80%
- WT-2: 80%
  - WT-2.1
  - WT-2.2
- WT-3: 80%
  - WT-3.1
  - WT-3.2
- WT-4: 70%
- WT-5: 0%
- WT-6: 0%
- WT-7: 0%
- WT-8: 0%
- WT-9: 0%
- WT-10: 0%
  - WT-10.1
  - WT-10.2

- WT-10.3

Summary of the progress at this meeting:

- Discussed the following aspects:
  - WT-1:
    - Two existing UCs are updated
    - management model decoupling
    - MnS versioning
    - schema retrieval support
  - WT-2:
    - Inventory of 5G performance specifications
    - Proposed solutions for NRM structure
  - WT-3:
    - Common Notification Header
    - Separate subscriptions
  - WT-4:
    - discovery of management capabilities based on area of interest
    - existing UC and solution for discovery of management capabilities of provisioning MnS supported by a MnS Producer are updated
- email approval of draft TR 28.871-v020 after SA5#155 is needed

Next steps (what to expect/to do at the next meeting)

- Contributions on evaluation of potential solutions for WT1-WT4 are welcome for SA5#156.
- Contributions on other WTs (WT5-WT10) are welcome for SA5#156.

#### 6.19.09 Study on Management of planned configurations (FS\_PlanM)

Overall WI progress: 60%

Progress per Work Task:

- WT-1: 70%
- WT-2: 70%
- WT-3: 50%
- WT-4: 50%

Summary of the progress at this meeting:

- The solutions for creating and updating planned configurations was improved.
- The use case and solution for validating planned configurations was added.
- The use case and solution for activating planned configurations was added.
- The use case and solution for conditionally activating planned configurations was added.
- The use case and solution for managing transactions was added.
- The use case and solution for managing alternative planned configurations was added.

Next steps (what to expect/to do at the next meeting)

#### 6.19.10 Data management phase 2 (MADCOL\_ph2)

Overall WI progress: 50%

Progress per Work Task:

- WT-1: 70%

- WT-1.1
- WT-1.2
- WT-1.3
- WT-2: 80%
- WT-3: 40%

Update:

- Revised WID [S5-242675](#) added new impacted TS 28.537.

Summary of the progress at this meeting:

- Clarification to historical data agreed
- description of external management data agreed
- requirement for condition based data production agreed
- solution to consolidated reporting of management data agreed

Next steps:

- Continue according to the plan.

#### 6.19.11 Study on data management regarding subscriptions and reporting (FS\_Data\_SREP)

Overall WI progress: 60%

Progress per Work Task:

- WT-1: 60%
- WT-2: 70%

Summary of the progress at this meeting:

- The scope and background was approved.
- Solutions for globally unique collectionId was approved.
- Two solutions for Reduce redundant Subscriptions was discussed of which one was agreed, so far. It might be approved in the closing plenary.

Next steps:

- Depending on on if all solutions for Reduce redundant Subscriptions are not agreed, more solutions are to be proposed.
- Conclusion and recommendations are to be made for both WT, which will mean that the study is finished.

#### 6.19.12 5G performance measurements and KPIs phase 4 (PM\_KPI\_5G\_Ph4)

Overall WI progress: 20%

Progress per Work Task:

- WT-1: 15%
  - WT-1.1
  - WT-1.2
  - WT-1.3
  - WT-1.4
  - WT-1.5
- WT-2: 20%
- WT-3: 0%

- WT-4: 10%

Summary of the progress in this meeting:

- This is the second meeting to continue the discussion of R19 PM\_KPI. A total of 13 contributions were submitted and treated at this meeting. The progress for each WT is described as follows.
  - WT-1 Three contributions of 5G PM\_KPI for R19 new feature were discussed and all were agreed. (Small Data Transmission, Distribution of time interval for L1/L2 Triggered Mobility, PMF related measurement for ATSSS).
  - WT-2 Nine contributions related to enhanced measurements and KPIs for the continuation of the R18 feature were discussed and some were agreed.
    - agreed: UE Capability enquiry and information messages, PDU Session Establishment Requests and Rejects, PDU establishment accessibility; measurements related to MLB, etc.
    - not pursued: network availability KPI; DL ITI Time Domain Proportion; UL CI Time Domain Proportion, etc.
  - WT-3 No contributions were submitted in this meeting.
  - WT-4 A CR "PM Streaming schema update with DN alias" was discussed but not pursued this time.

Next steps:

- Continue the work per the plan.

### 6.19.13 5G Advanced NRM features phase 3 (AdNRM\_ph3)

Overall WI progress: 15%

Progress per Work Task:

- WT-1: 15%
- WT-2: 15%
- WT-3: 0%
- WT-4: 30%
- WT-5: 5%
- WT-6: 0%

Update:

- Revised SID [S5-242546](#) adding new WT-6 "Enhancement for edge NRM to support new EDGEAPP features defined in Rel-19."

Summary of the progress in this meeting:

- Introducing common data Type Stage 2/3 (both YAML and YANG) discussed and agreed
- Adding the xxInfo to UPFunction, SMFunction, PCFunction, and BSFunction discussed and agreed
- Moving ManagedNFService from generic NRM to TS28.541 agreed
- Updating Schema definition for SubNetwork and ManagedElement for generic control NRM fragment is agreed
- Updating default value to YAML schema discussed but not agreed
- Adding new OperatorCU and NRCellOperatorCU for MOCN discussed but not agreed

Next steps:

- 5GC/NR/Edge/Stage3 NRM enhancement

### 6.19.14 Subscriber and Equipment Trace and QoE collection management (TraceQoE\_OAM)

Overall WI progress: 20%

Progress per Work Task:

- WT-1: 20%
- WT-2: 20%
- WT-3: 10%

Summary of the progress at this meeting:

- Update QoE areaScope
- new requirements on new MRO reports

Next steps (what to expect/to do at the next meeting)

#### 6.19.15 Study on Management Aspects of NTN Phase 2 (FS\_NTN\_OAM\_Ph2)

Overall WI progress: 65%

Progress per Work Task:

- WT-1: 65%
- WT-2: 65%
- WT-3: 65%
- WT-4: 65%

Summary of the progress at this meeting:

- references, terms and background have been updated.
- WT#1: New use cases of management capabilities to support new network architecture or functions for satellite regenerative payload have been discussed and agreed
- WT#2: New use cases to support Store and Forward (S&F) satellite operation and UE-Satellite-UE communication have been discussed and agreed
- WT#4: One use case of management enhancement for NTN-TN and NTN-NTN mobility coordination has been discussed and agreed.

Next steps:

- Potential requirements and potential solutions will be discussed on next meeting.

#### 6.19.16 Study on management of IAB nodes (FS\_NR\_mobile\_IAB\_OAM)

Overall WI progress: 40%

Progress per Work Task:

- WT-1: 100%
- WT-2: 0%
- WT-3: 10%
- WT-4: 0%

Update:

- Change of completion target to November 2024 (no SID revision)

Summary of the progress at this meeting:

- Two solutions for:
  - Configuration based solution to support IAB node connectivity to OAM system 2961
  - PDU session based solution to support IAB node connectivity to OAM system 2962
- Were discussed and possibly approved

Next steps (what to expect/to do at the next meeting)

- Progress of the different WTs.

#### 6.19.17 Study on management aspects of RedCap feature (FS\_NR\_RedCap\_OAM)

Overall WI progress: 50%

Progress per Work Task:

- WT-1: 60%
  - WT-1.1
  - WT-1.2
  - WT-1.3
- WT-2: 50%
  - WT-2.1
  - WT-2.2
- WT-3: 50%
- WT-4: 30%

Summary of the progress at this meeting:

- Update the existing use cases and requirements
- Add the potential solutions for the metric of RedCap throughput performance evaluation and RRC connection number use cases
- Add new use case and requirements on Inactive UEs,
- Add the information about RedCap can be exposed between CSP and CSC

Next steps (what to expect/to do at the next meeting):

- Potential solutions for the remaining usecases and requirements will be studied.
- Potential solution for EE KPI of RedCap will be continue studied.
- Potential solution for the use case which is the information about RedCap can be exposed between CSP and CSC will be studied.

#### 6.19.18 Study on Enhancement of Management Aspects related to NWDAF Phase 2 (FS\_NWDAF\_OAM\_Ph2)

Overall WI progress: 75%

Progress per Work Task:

- WT-1: 70%
- WT-2: 80%

Summary of the progress at this meeting:

- WT#1:
  - solution for configuring roaming analytics exposure are proposed.
  - solutions for monitoring the successfulness the RE-NWDAF providing services are proposed.
- WT#2:
  - solutions for measuring the amount of data collected by NWDAF from NF are proposed considering different granularities.
  - new UC and REQ for measuring the amount of data collected by NWDAF via DCCF/NWDAF hosting DCCF are proposed.
  - solutions for measuring the efficiency of NWDAF performing data collection from NFs and the efficiency of NWDAF performing data collection via DCCF/NWDAF hosting DCCF are proposed, considering different

granularities.

- solutions for measuring the transmission efficiency of NWDAF collecting data from NFs and the transmission efficiency of NWDAF collecting data via DCCF/NWDAF hosting DCCF are proposed, considering different granularities.

Next steps (what to expect/to do at the next meeting)

- considering there are 2 checking procedures in the roaming case, additional solutions are needed.
- solutions for measuring the amount of data collected by NWDAF via DCCF/NWDAF hosting DCCF are needed.

#### 6.19.19 Study on Management of Network Sharing Phase 3 (FS\_NetShare\_OAM\_Ph3)

Overall WI progress: 50%

Progress per Work Task:

- WT-1: 50%
- WT-2: 40%
- WT-3: 30%

Update (at SA5#154):

- Revised SID [S5-242035](#) added two new WTs - WT-2 "Study issues related to Rel-18" and WT-3 "3 Investigate potential enhancements for Indirect Network Sharing scenarios".

Summary of the progress at this meeting:

- For WT-3:
  - Update of scope and concepts and use case, requirements for S-RAN management of Indirect network sharing have been discussed and agreed.
  - No solution is provided.

Next steps:

- For WT-1, solution for Trace job and collection requirements for POPs will be studied.
- For WT-2, solution for enhancements and scenarios for SBMA to support MOCN and access-rights-related scenarios will be studied.
- For WT-3, the progress of SA2 related to Indirect Network Sharing will be kept attention and solution for S-RAN management of Indirect network sharing will be studied. Other enhancements will be further investigated.

#### 6.19.20 Study on energy efficiency and energy saving aspects of 5G networks and services (FS\_Energy\_OAM\_Ph3)

Overall WI progress: 25%

Progress per Work Task:

- WT-1:
  - WT-1.1: 0% (SA5#154) -> 0% (SA5#155)
  - WT-1.2: 30% (SA5#154) -> 35% (SA5#155)
  - WT-1.3: 20% (SA5#154) -> 25% (SA5#155)
  - WT-1.4: 0% (SA5#154) -> 0% (SA5#155)
- WT-2:
  - WT-2.1: 10% (SA5#154) -> 10% (SA5#155)
  - WT-2.2: 25% (SA5#154) -> 30% (SA5#155)
  - WT-2.3: 0% (SA5#154) -> 0% (SA5#155)

- WT-3:
  - WT-3.1: 0% (SA5#154) -> 0% (SA5#155)
- WT-4:
  - WT-4.1: 0% (SA5#154) -> 0% (SA5#155)
  - WT-4.2: 10% (SA5#154) -> 15% (SA5#155)
  - WT-4.3: 0% (SA5#154) -> 0% (SA5#155)
  - WT-4.4: 0% (SA5#154) -> 0% (SA5#155)
  - WT-4.5: 0% (SA5#154) -> 0% (SA5#155)
- WT-5:
  - WT-5.1: 0% (SA5#154) -> 0% (SA5#155)
  - WT-5.2: 0% (SA5#154) -> 5% (SA5#155)

Summary of the progress at this meeting:

- 17 contributions submitted and discussed
- Few progress at this meeting

Next steps:

- as next meeting is the last Rel-19 study phase meeting, it is expected that:
  - Potential solution(s) are proposed to existing use cases, especially if none exists yet
  - No new use case is submitted without accompanying potential solution(s)
  - An analysis of the various potential solutions (if any) is proposed, per use case.

#### 6.19.21 Study on Enhanced OAM for management exposure to external consumers (FS\_MExpo)

Overall WI progress: 50%

Progress per Work Task:

- WT-1: 60%
  - WT-1.1: 50%
  - WT-1.2: 50%
  - WT-1.3: 50%
  - WT-1.4: 50%
- WT-2: 0%
  - WT-2.1: 0%
  - WT-2.2: 0%
  - WT-2.3: 0%
  - WT-2.4: 0%
- WT-3: 0%
  - WT-3.1: 0%
  - WT-3.2: 0%

Updates:

- Change in rapporteur ([S5-242448](#): Revised SID on Study on Enhanced OAM for management exposure to external consumers): new rapporteur: Srilakshmi Srinivasaraju (Nokia), [srilakshmi.s@nokia.com](mailto:srilakshmi.s@nokia.com).

Summary of the progress at this meeting:

- The group was able to agree on the following aspects in this meeting:
  - Usage of CAPIF framework as the mechanism for exposing management services to external MnS consumers.
  - Registration, publication, authorization and logging API invocations of MnS producer with CAPIF.

Next steps

- Further study on the discovery aspects of MnS producer with CAPIF.
- The group discussed on use cases related to communication service management support. It needs to be further discussed for the group to reach a consensus.

## Reporting guidance for the rapporteurs

Each work item / study item needs to provide the following details:

- WI/SI Progress with completion:
- Progress per WT (work task numbers should match those declared/approved in the WID):
  - WT#1 %:
  - WT#2 %:
  - WT#3 %:
  - WT#4 %:
- Updates (if any):
  - change of target dates (add the new target date)
  - change of SA/RAN/CT impacts and dependencies (add the new impact/dependency)
- Summary of the progress at *this* meeting:
  - detailed (more than just # of contributions agreed) description of the progress
  - next steps (what to expect/to do at the next meeting)