



LET'S DELIVER TOGETHER

From DLS Implementation Strategy to candidate Projects into the 2016 CEF Transport Calls

Brussels, 20th October 2016

H: 09:30 – 16:30

SESAR Deployment Manager Premises



Funded by the
European Union

Workshop Agenda

- ✓ 09.30 – 09:45 - Welcome Address
(*Massimo Garbini*)
- ✓ 09:45 - 10.00 – SESAR Deployment Manager role
(*Nicolas Warinsko*)
- ✓ 10. 00 - 10.15 - Towards the Data Link Services (DLS) Recovery Plan
(*Mariagrazia La Piscopia*)
- ✓ 10.15– 11.00 - Data Link Services (DLS) Recovery Plan:
 - Overview
 - Path I – Implementation of the DLS transitional solution
 - Path II – Preparatory activities towards the target solution
- ✓ 11.00 – 11.15 - Coffee break
- ✓ 11.15 – 11.30 - DLS Recovery Plan
 - Other required activities
 - SDM interfaces (*Servane Woff-Lhuissier*)
 - Global interoperability (*Marita Lintener*)

Workshop Agenda

- ✓ **11.30 – 11.45 - 2016 CEF Transport Calls: overview**
(Mariagrazia La Piscopia)
- ✓ **11.45 – 12.30 – Discussion**
- ✓ **12.30 – 13.30 - Lunch Time**
- ✓ **13.30 – 15.00 - Path I: DLS Projects in the Ground domain**
(Davide Corinaldesi)
- ✓ **15.00 – 16.00 - Path I: DLS Projects in the Airborne Domain**
- ✓ **16.00 – 16.15 - Path II: Multistakeholder project**
- ✓ **16.15 – 16.30 - Closing Remarks**
(Nicolas Warinsko)

Welcome Address



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SDM role

- ▶ According to the DLS Recovery Plan and ELSA's Recommendation ref. "Network_Oversight 01" and supported by the Oss, it is SDM ambition to lead, combining the strength and opportunities from its 3 roles:

1 As SESAR Deployment Manager*

SDM is the unique reference for PCP implementation planning and monitoring, therefore in the best position to embed this Recovery Plan into the wider picture of AF6 and PCP implementation both from the planning and the realization perspectives

2 As DLS implementation project manager**

SDM will play a more active role from the management level into implementation level for what concerns DLS related projects being architect, facilitator, precursor

3 As SESAR deployment Framework Partnership Coordinator***

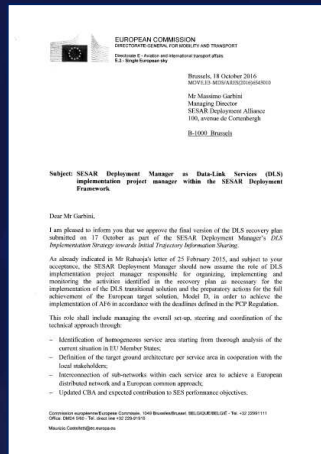
SDM has the unique opportunity to bridge between the role of DLS implementation project manager and being the coordinator of a cluster of DLS related projects

*Regulation (EU) No 409/2013, article 9

** In compliance with ELSA's recommendation Network_Oversight 01", subject to mandate by the European Commission *

***Framework Partnership Agreement (FPA, art.1.1.1, II.1.3)

DLS implementation project manager



According to EC mandate, the SDM should now assume the **role of DLS implementation project manager** responsible for **organizing, implementing and monitoring the activities** identified in the recovery plan[...]. This role shall include:

- Identification of homogenous **service areas** starting from the **analysis of the current situation in EU Member States**;
- Definition of **target ground architecture** per service area in cooperation with the local stakeholders;
- **Interconnection of sub-networks within each service area to achieve a European distributed network and** a European common approach;
- **Updated CBA** and expected contribution to SES performance objectives.

SDM – as DLS project manager – shall **facilitate the involvement of relevant stakeholders** to ensure a **coordinated submission of DLS IPs to the CEF Transport Calls for proposals**, also enabling projects to **stimulate establishment of a single European DLS governance**



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Towards the DLS Recovery Plan (1/2)

From ELSA to DLS implementation Strategy

1

Following the European Commission request, the **Data Link Services (DLS) Implementation Strategy towards Initial Trajectory Information Sharing** has been published as an **Addendum 1** of the DP 2016 Strategic View

**Data Link Services
Implementation Strategy
towards Initial Trajectory
Information Sharing**



Elaborates a common approach and an Action Plan, defining HOW to implement Data Link Services

**VDL Mode 2 Measurement,
Analysis and Simulation
Campaign**



Defines WHAT needs to be implemented in Europe



Urges to establish a “pan-European air/ground datalink implementing function” to organize the activities

Towards the DLS Recovery Plan (2/2)

2

The **Addendum 1**, embedded in the DP 2016, **has been approved in the framework of the second Specific Grant Agreement (SGA2)** between the DG MOVE and the SDM, has been consulted through the **Stakeholder Consultation Platform (SCP)** and approved by the **SDM SB**.

3

Following the Addendum 1 approval, the EC has requested SDM to extract from this Addendum 1 a **“Recovery Plan to implement the necessary technological upgrades that will ensure a stable and reliable ATN/VDL Mode 2.**

*Data Link Services (DLS)
Recovery Plan*

SESAR
DEPLOYMENT MANAGER



▶ Translates the common approach and the action plan into typical required implementation projects

▶ Approved by EC is the blue print for stakeholders to submit DLS related IPs to 2016 CEF Transport Calls

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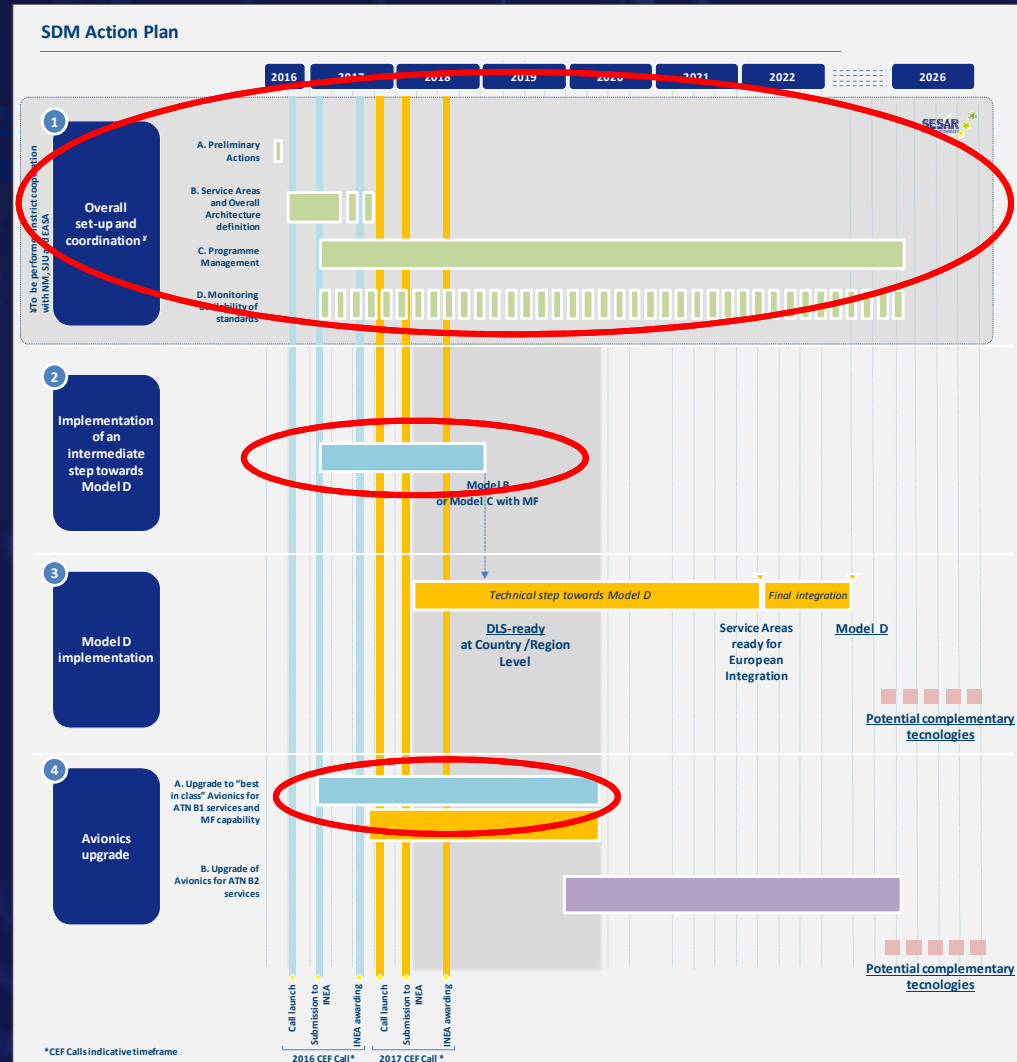
DLS Recovery Plan as an extract of Addendum 1



Following the EC request, the SDM has extracted from the SDM DLS implementation strategy, included in DP 2016, a **Recovery Plan to implement data-link capability as a step towards AF6**.

With regard to the SDM Action Plan, the figure illustrates on which streams (or part of them) the Recovery Plan is focused (red circles).

According to the Addendum 1, the DLS Recovery Plan provides preliminary high level principles elaborated to guide the civil and military operational Stakeholders in the submission of IP proposal for the 2016 CEF Transport Calls.



DLS Recovery Plan - overview



Path I – Implementation of the DLS transitional Solution

It aims at identifying the deployment activities needed to meet EU (IR) 310/2015 and ELSA's recommendations, focusing in particular on the envisaged transitional solutions (Model B or Model C with Multi Frequency (MF)).



Path II – Preparatory activities towards the target solution

It aims at identifying the steps towards the envisaged target solution in order to grant the required performances needed to achieve full AF6 implementation.

Path I – Implementation of the DLS transitional solution



OBJECTIVES

It provides **an overview of the steps to be undertaken** by the involved stakeholders in the **airborne and ground domains**.

SDM ROLE IN PATH I

- Facilitate a **proactive and direct involvement of all the relevant stakeholders** to ensure a coordinated submission of required DLS implementation projects;
- Facilitate **direct support to EASA and NM** in providing the relevant set of information enabling end to end certification processes and the performance monitoring of the technical capabilities.



Path I – DLS implementation projects

Airborne and Ground domains

AIRBORNE DOMAIN



- SDM incentivizes **the upgrade to the “best in class” avionics configurations** which are considered as the set of airborne equipment necessary to comply with the ATN/VDL2 performance expectations in multi-frequency (MF) environment.

REFERENCE TO DP 2016 FAMILIES

6.1.4 – ATN B1 capability in Multi Frequency environment in aircraft domain

GROUND DOMAIN



- SDM recommends that the IPs should be focused on the **deployment/upgrade towards multi frequency networks at Country/Region level.**
- **This first deployment represents an intermediate step towards the Target solution, Model D.**

REFERENCE TO DP 2016 FAMILIES*

6.1.3 - A/G and G/G Multi Frequency DL Network in defined European Service Areas

*** ATSP DOMAIN IS RELATED TO DP 2016 – FAMILY 6.1.1 THAT IS NOT IN THE SCOPE OF THE DLS RECOVERY PLAN**



Path II – Preparatory activities towards the target solution and service provision



OBJECTIVES

It aims at providing indications on the activities **to be addressed by the involved stakeholders, in support to SDM, towards the implementation of the target solution and service provision** enabling to reach full AF6 deployment (Initial Trajectory Information Sharing) according to DP 2016 Addendum 1.

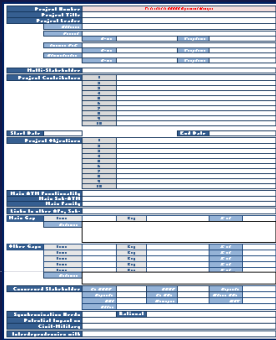
SDM ROLE IN PATH II

- **Manage the overall set-up, and coordinate the above mentioned activities as project manager** working in close cooperation with the stakeholders involved.
- **Close coordination**, through the relevant working arrangements, with **Network Manager, EASA, SJU and EDA** as necessary actors within the project towards the target DLS deployment model.



Path II – Multistakeholder project elaboration

- The stakeholders **are encouraged to elaborate a multistakeholder project, that will specifically define an European Common DLS Governance and support the SDM** in its activities, according to Addendum 1 and DLS Recovery Plan.



Project Name	Project ID	Project Lead
Project A	001	John Doe
Project B	002	Jane Smith
Project C	003	Mike Johnson
Project D	004	Sarah Brown
Project E	005	David White
Project F	006	Emily Green
Project G	007	Chris Black
Project H	008	Alex Grey
Project I	009	Olivia Blue
Project J	010	Noah Yellow
Project K	011	Isabella Purple
Project L	012	Liam Pink
Project M	013	Mia Orange
Project N	014	Lucas Red
Project O	015	Charlotte Brown
Project P	016	Benjamin Green
Project Q	017	Harper Blue
Project R	018	Elijah Yellow
Project S	019	Avery Purple
Project T	020	Caleb Pink
Project U	021	Madison Orange
Project V	022	Isaac Red
Project W	023	Chloe Brown
Project X	024	Wyatt Green
Project Y	025	Zoe Blue
Project Z	026	Jack Yellow
Project AA	027	Kyle Purple
Project AB	028	Natalie Pink
Project AC	029	Logan Orange
Project AD	030	Aria Red
Project AE	031	Carter Brown
Project AF	032	Skylar Green
Project AG	033	Grayson Blue
Project AH	034	Isabelle Yellow
Project AI	035	Robert Purple
Project AJ	036	Victoria Pink
Project AK	037	Ethan Orange
Project AL	038	Ashley Red
Project AM	039	Christopher Brown
Project AN	040	Samantha Green
Project AO	041	Matthew Blue
Project AP	042	Christina Yellow
Project AQ	043	Andrew Purple
Project AR	044	Kylee Pink
Project AS	045	Jonathan Orange
Project AT	046	Stephanie Red
Project AU	047	Benjamin Brown
Project AV	048	Madeline Green
Project AW	049	Samuel Blue
Project AX	050	Emily Yellow
Project AY	051	David Purple
Project AZ	052	Alexis Pink
Project BA	053	Isaac Orange
Project BB	054	Chloe Red
Project BC	055	Wyatt Brown
Project BD	056	Zoe Green
Project BE	057	Jack Blue
Project BF	058	Kyle Yellow
Project BG	059	Natalie Purple
Project BH	060	Logan Pink
Project BI	061	Aria Orange
Project BJ	062	Carter Red
Project BK	063	Skylar Brown
Project BL	064	Grayson Green
Project BM	065	Isabelle Blue
Project BN	066	Robert Yellow
Project BO	067	Victoria Purple
Project BP	068	Ethan Pink
Project BQ	069	Ashley Orange
Project BR	070	Christopher Red
Project BS	071	Samantha Brown
Project BT	072	Matthew Green
Project BU	073	Christina Blue
Project BV	074	Andrew Yellow
Project BV	075	Kylee Purple
Project BW	076	Jonathan Pink
Project BX	077	Stephanie Orange
Project BY	078	Benjamin Red
Project BZ	079	Madeline Brown
Project CA	080	Samuel Green
Project CB	081	Emily Blue
Project CC	082	David Yellow
Project CD	083	Alexis Purple
Project CE	084	Isaac Pink
Project CF	085	Chloe Orange
Project CG	086	Wyatt Red
Project CH	087	Zoe Brown
Project CI	088	Jack Green
Project CJ	089	Kyle Blue
Project CK	090	Natalie Yellow
Project CL	091	Logan Purple
Project CM	092	Aria Pink
Project CN	093	Carter Orange
Project CO	094	Skylar Red
Project CP	095	Grayson Brown
Project CQ	096	Isabelle Green
Project CR	097	Robert Blue
Project CS	098	Victoria Yellow
Project CT	099	Ethan Purple
Project CU	100	Ashley Pink
Project CV	101	Christopher Orange
Project CW	102	Samantha Red
Project CX	103	Matthew Brown
Project CY	104	Christina Green
Project CZ	105	Andrew Blue
Project DA	106	Emily Yellow
Project DB	107	David Purple
Project DC	108	Alexis Pink
Project DD	109	Isaac Orange
Project DE	110	Chloe Red
Project DF	111	Wyatt Brown
Project DG	112	Zoe Green
Project DH	113	Jack Blue
Project DI	114	Kyle Yellow
Project DJ	115	Natalie Purple
Project DK	116	Logan Pink
Project DL	117	Aria Orange
Project DM	118	Carter Red
Project DN	119	Skylar Brown
Project DO	120	Grayson Green
Project DP	121	Isabelle Blue
Project DQ	122	Robert Yellow
Project DR	123	Victoria Purple
Project DS	124	Ethan Pink
Project DT	125	Ashley Orange
Project DU	126	Christopher Red
Project DV	127	Samantha Brown
Project DW	128	Matthew Green
Project DX	129	Christina Blue
Project DY	130	Andrew Yellow
Project DZ	131	Kylee Purple
Project EA	132	Jonathan Pink
Project EB	133	Stephanie Orange
Project EC	134	Benjamin Red
Project ED	135	Madeline Brown
Project EE	136	Samuel Green
Project EF	137	Emily Blue
Project EG	138	David Yellow
Project EH	139	Alexis Purple
Project EI	140	Isaac Pink
Project EJ	141	Chloe Orange
Project EK	142	Wyatt Red
Project EL	143	Zoe Brown
Project EM	144	Jack Green
Project EN	145	Kyle Blue
Project EO	146	Natalie Yellow
Project EP	147	Logan Purple
Project EQ	148	Aria Pink
Project ER	149	Carter Orange
Project ES	150	Skylar Red
Project ET	151	Grayson Brown
Project EU	152	Isabelle Green
Project EV	153	Robert Blue
Project EW	154	Victoria Yellow
Project EX	155	Ethan Purple
Project EY	156	Ashley Pink
Project EZ	157	Christopher Orange
Project FA	158	Samantha Red
Project FB	159	Matthew Brown
Project FC	160	Christina Green
Project FD	161	Andrew Blue
Project FE	162	Emily Yellow
Project FF	163	David Purple
Project FG	164	Alexis Pink
Project FH	165	Isaac Orange
Project FI	166	Chloe Red
Project FJ	167	Wyatt Brown
Project FK	168	Zoe Green
Project FL	169	Jack Blue
Project FM	170	Kyle Yellow
Project FN	171	Natalie Purple
Project FO	172	Logan Pink
Project FP	173	Aria Orange
Project FQ	174	Carter Red
Project FR	175	Skylar Brown
Project FS	176	Grayson Green
Project FT	177	Isabelle Blue
Project FU	178	Robert Yellow
Project FV	179	Victoria Purple
Project FW	180	Ethan Pink
Project FX	181	Ashley Orange
Project FY	182	Christopher Red
Project FZ	183	Samantha Brown
Project GA	184	Matthew Green
Project GB	185	Christina Blue
Project GC	186	Andrew Yellow
Project GD	187	Kylee Purple
Project GE	188	Jonathan Pink
Project GF	189	Stephanie Orange
Project GH	190	Benjamin Red
Project GI	191	Madeline Brown
Project GJ	192	Samuel Green
Project GK	193	Emily Blue
Project GL	194	David Yellow
Project GM	195	Alexis Purple
Project GN	196	Isaac Pink
Project GO	197	Chloe Orange
Project GP	198	Wyatt Red
Project GQ	199	Zoe Brown
Project GR	200	Jack Green
Project GS	201	Kyle Blue
Project GT	202	Natalie Yellow
Project GU	203	Logan Purple
Project GV	204	Aria Pink
Project GW	205	Carter Orange
Project GX	206	Skylar Red
Project GY	207	Grayson Brown
Project GZ	208	Isabelle Green
Project HA	209	Robert Blue
Project HB	210	Victoria Yellow
Project HC	211	Ethan Purple
Project HD	212	Ashley Pink
Project HE	213	Christopher Orange
Project HF	214	Samantha Red
Project HG	215	Matthew Brown
Project HH	216	Christina Green
Project HI	217	Andrew Blue
Project HJ	218	Emily Yellow
Project HK	219	David Purple
Project HL	220	Alexis Pink
Project HM	221	Isaac Orange
Project HN	222	Chloe Red
Project HO	223	Wyatt Brown
Project HP	224	Zoe Green
Project HQ	225	Jack Blue
Project HR	226	Kyle Yellow
Project HS	227	Natalie Purple
Project HT	228	Logan Pink
Project HU	229	Aria Orange
Project HV	230	Carter Red
Project HW	231	Skylar Brown
Project HX	232	Grayson Green
Project HY	233	Isabelle Blue
Project HZ	234	Robert Yellow
Project IA	235	Victoria Purple
Project IB	236	Ethan Pink
Project IC	237	Ashley Orange
Project ID	238	Christopher Red
Project IE	239	Samantha Brown
Project IF	240	Matthew Green
Project IG	241	Christina Blue
Project IH	242	Andrew Yellow
Project II	243	Kylee Purple
Project IJ	244	Jonathan Pink
Project IK	245	Stephanie Orange
Project IL	246	Benjamin Red
Project IM	247	Madeline Brown
Project IN	248	Samuel Green
Project IO	249	Emily Blue
Project IP	250	David Yellow
Project IQ	251	Alexis Purple
Project IR	252	Isaac Pink
Project IS	253	Chloe Orange
Project IT	254	Wyatt Red
Project IU	255	Zoe Brown
Project IV	256	Jack Green
Project IW	257	Kyle Blue
Project IX	258	Natalie Yellow
Project IY	259	Logan Purple
Project IZ	260	Aria Pink
Project JA	261	Carter Orange
Project JB	262	Skylar Red
Project JC	263	Grayson Brown
Project JD	264	Isabelle Green
Project JE	265	Robert Blue
Project JF	266	Victoria Yellow
Project JG	267	Ethan Purple
Project JH	268	Ashley Pink
Project JI	269	Christopher Orange
Project JJ	270	Samantha Red
Project JK	271	Matthew Brown
Project JL	272	Christina Green
Project JM	273	Andrew Blue
Project JN	274	Emily Yellow
Project JO	275	David Purple
Project JP	276	Alexis Pink
Project JQ	277	Isaac Orange
Project JR	278	Chloe Red
Project JS	279	Wyatt Brown
Project JT	280	Zoe Green
Project JU	281	Jack Blue
Project JV	282	Kyle Yellow
Project JW	283	Natalie Purple
Project JX	284	Logan Pink
Project JY	285	Aria Orange
Project JZ	286	Carter Red
Project KA	287	Skylar Brown
Project KB	288	Grayson Green
Project KC	289	Isabelle Blue
Project KD	290	Robert Yellow
Project KE	291	Victoria Purple
Project KF	292	Ethan Pink
Project KG	293	Ashley Orange
Project KH	294	Christopher Red
Project KI	295	Samantha Brown
Project KJ	296	Matthew Green
Project KK	297	Christina Blue
Project KL	298	Andrew Yellow
Project KM	299	Kylee Purple
Project KN	300	Jonathan Pink
Project KO	301	Stephanie Orange
Project KP	302	Benjamin Red
Project KQ	303	Madeline Brown
Project KR	304	Samuel Green
Project KS	305	Emily Blue
Project KT	306	David Yellow
Project KU	307	Alexis Purple
Project KV	308	Isaac Pink
Project KW	309	Chloe Orange
Project KX	310	Wyatt Red
Project KY	311	Zoe Brown
Project KZ	312	Jack Green
Project LA	313	Kyle Blue
Project LB	314	Natalie Yellow
Project LC	315	Logan Purple
Project LD	316	Aria Pink
Project LE	317	Carter Orange
Project LF	318	Skylar Red
Project LG	319	Grayson Brown
Project LH	320	Isabelle Green
Project LI	321	Robert Blue
Project LJ	322	Victoria Yellow
Project LK	323	Ethan Purple
Project LL	324	Ashley Pink
Project LM	325	Christopher Orange
Project LN	326	Samantha Red
Project LO	327	Matthew Brown
Project LP	328	Christina Green
Project LQ	329	Andrew Blue
Project LR	330	Emily Yellow
Project LS	331	David Purple
Project LT	332	Alexis Pink
Project LU	333	Isaac Orange
Project LV	334	Chloe Red
Project LW	335	Wyatt Brown
Project LX	336	Zoe Green
Project LY	337	Jack Blue
Project LZ	338	Kyle Yellow
Project MA	339	Natalie Purple
Project MB	340	Logan Pink
Project MC	341	Aria Orange
Project MD	342	Carter Red
Project ME	343	Skylar Brown
Project MF	344	Grayson Green
Project MG	345	Isabelle Blue
Project MH	346	Robert Yellow
Project MI	347	Victoria Purple
Project MJ	348	Ethan Pink
Project MK	349	Ashley Orange
Project ML	350	Christopher Red
Project MN	351	Samantha Brown
Project MO	352	Matthew Green
Project MP	353	Christina Blue
Project MQ	354	Andrew Yellow
Project MR	355	Kylee Purple
Project MS	356	Jonathan Pink
Project MT	357	Stephanie Orange
Project MU	358	Benjamin Red
Project MV	359	Madeline Brown
Project MW	360	Samuel Green
Project MX	361	Emily Blue
Project MY	362	David Yellow
Project MZ	363	Alexis Purple
Project NA	364	Isaac Pink
Project NB	365	Chloe Orange
Project NC	366	Wyatt Red
Project ND	367	Zoe Brown
Project NE	368	Jack Green
Project NF	369	Kyle Blue
Project NG	370	Natalie Yellow
Project NH	371	Logan Purple
Project NI	372	Aria Pink
Project NJ	373	Carter Orange
Project NK	374	Skylar Red
Project NL	375	Grayson Brown
Project NM	376	Isabelle Green
Project NN	377	Robert Blue
Project NO	378	Victoria Yellow
Project NP	379	Ethan Purple
Project NQ	380	Ashley Pink
Project NR	381	Christopher Orange
Project NS	382	Samantha Red
Project NT	383	Matthew Brown
Project NU	384	Christina Green
Project NV	385	Andrew Blue
Project NW	386	Emily Yellow
Project NX	387	David Purple
Project NY	388	Alexis Pink
Project NZ	389	Isaac Orange
Project OA	390	Chloe Red
Project OB	391	Wyatt Brown
Project OC	392	Zoe Green
Project OD	393	Jack Blue
Project OE	394	Kyle Yellow
Project OF	395	Natalie Purple
Project OG	396	Logan Pink
Project OH	397	Aria Orange
Project OI	398	Carter Red
Project OJ	399	Skylar Brown
Project OK	400	Grayson Green
Project OL	401	Isabelle Blue
Project OM	402	Robert Yellow
Project ON	403	Victoria Purple
Project OO	404	Ethan Pink
Project OP	405	Ashley Orange
Project OQ	406	Christopher Red
Project OR	407	Samantha Brown
Project OS	408	Matthew Green
Project OT	409	Christina Blue
Project OU	410	Andrew Yellow
Project OV	411	Kylee Purple
Project OW	412	Jonathan Pink
Project OX	413	Stephanie Orange
Project OY	414	Benjamin Red
Project OZ	415	Madeline Brown
Project PA	416	Samuel Green
Project PB	417	Emily Blue
Project PC	418	David Yellow
Project PD	419	Alexis Purple
Project PE	420	Isaac Pink
Project PF	421	Chloe Orange
Project PG	422	Wyatt Red
Project PH	423	Zoe Brown
Project PI	424	Jack Green
Project PJ	425	Kyle Blue
Project PK	426	Natalie Yellow
Project PL	427	Logan Purple
Project PM	428	Aria Pink
Project PN	429	Carter Orange
Project PO	430	Skylar Red
Project PP	431	Grayson Brown
Project PQ	432	Isabelle Green
Project PR	433	Robert Blue
Project PS	434	Victoria Yellow
Project PT	435	Ethan Purple
Project PU	436	Ashley Pink
Project PV	437	Christopher Orange
Project PW	438	Samantha Red
Project PX	439	Matthew Brown
Project PY	440	Christina Green
Project PZ	441	Andrew Blue
Project QA	442	Emily Yellow
Project QB	443	David Purple
Project QC	444	Alexis Pink
Project QD	445	Isaac Orange
Project QE	446	Chloe Red
Project QF	447	Wyatt Brown
Project QG	448	Zoe Green
Project QH	449	Jack Blue
Project QI	450	Kyle Yellow
Project QJ	451	Natalie Purple
Project QK	452	Logan Pink
Project QL	453	Aria Orange
Project QM	454	Carter Red
Project QN	455	Skylar Brown
Project QO</		

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Other required activities



End to end certification

(in accordance with ELSA's Recommendation ref. "Network_Oversight 03")

It is recommended the definition and implementation of an effective data link end-to-end system certification process, including both ground and air components

Performance Monitoring and Spectrum Coordination

(in accordance with ELSA's Recommendation ref. "Network_Oversight 02")

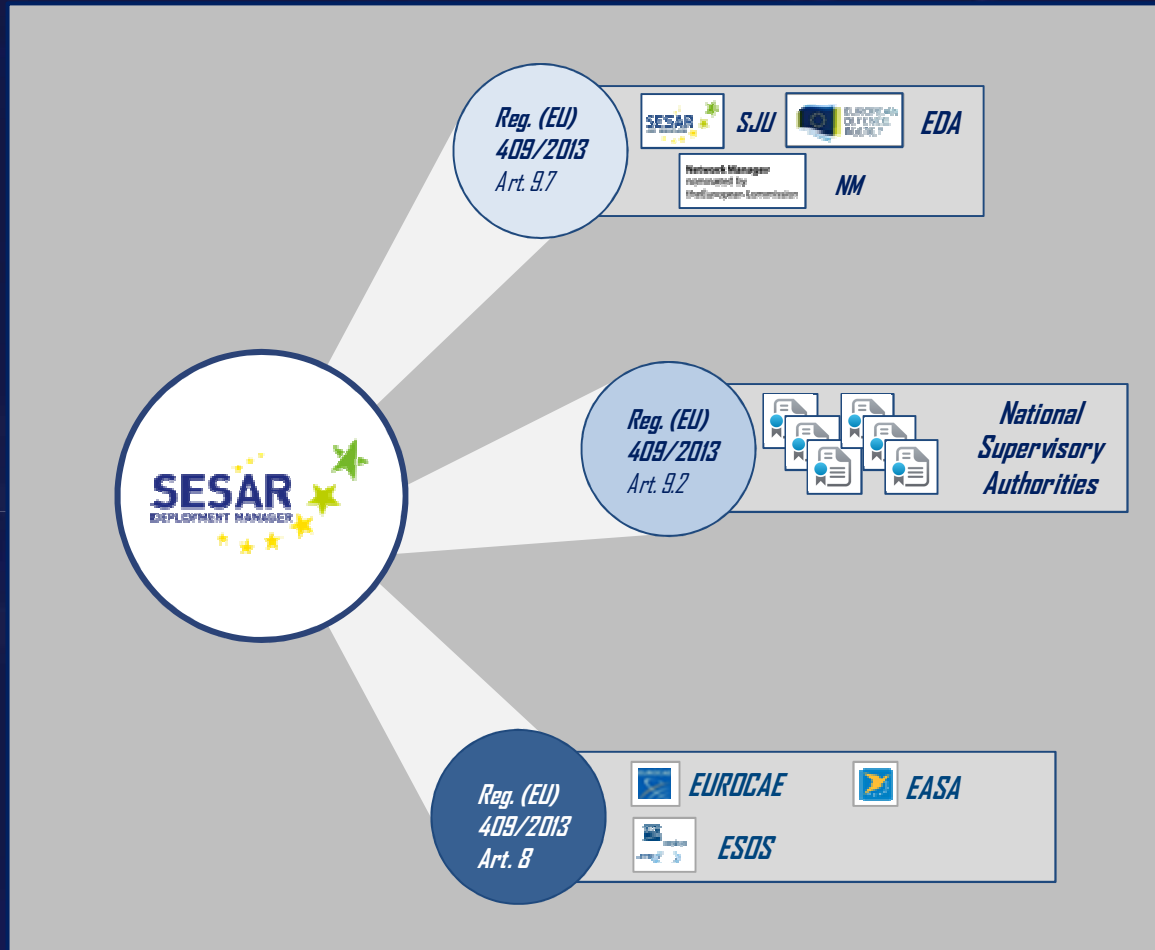
- continuous RF and performance monitoring of the entire system comprising airborne equipment, ground equipment and the operation thereof;
- Regular assessment and coordination of the RF needs and spectrum usage aspects with the stakeholders and the NM-RFF in accordance with the ICAO standard.



SDM ROLE

- **The mentioned activities are not under SDM remit** but they are considered **essential enablers** to a successful DLS deployment and operation.
- **SDM will interface with and provide support to the bodies to be established/empowered to lead these activities through dedicated working arrangements and facilitate their execution.**

SDM Interfaces with other relevant Bodies



SDM will establish a **Data Link Steering Group** by the **end of 2016** in order to work together with relevant Bodies and coordinate the activities necessary to adequately face the specific opportunities and risks in the Recovery Plan and, beyond, in Data-Link Services Implementation Strategy Towards Initial Trajectory Information Sharing.

Global interoperability



The risk of lack in global interoperability was already addressed in DP 2015, primarily driven by the airspace users. **DLS/DataComm is one of the key focus items** for global interoperability and harmonization and addressed in the EU - US cooperation work

Why

- ▶ To de-risk the implementation of PCP and subsequent common projects
- ▶ Mitigation of the SDM DP **risk of lack of global harmonization and interoperability**, strongly related to the risk of lack in standardization/ regulation
- ▶ To achieve the highest level of interoperability between SESAR and NextGen
- ▶ To achieve a full life cycle view on all phases on both US and European ATM Modernization Programmes
- ▶ To go beyond SESAR – NextGen interoperability to the broader field of global harmonisation
- ▶ For consistency between SESAR with the ICAO Global ATM Concept (GANP, ASBUs)
- ▶ To achieve the objectives of the SES policy supporting SESAR as the technology pillar



How

- ▶ MoC of EU and US on Civil Aviation Research & Development (2011)
- ▶ Letter of Intent between EC and FAA (June 2015) to exploit options of cooperation including deployment matters beyond current MoC Annexes
- ▶ Since early 2016, FAA and SESAR work together **on full life cycle view** of both ATM modernization programmes, especially on
 - ✓ SWIM
 - ✓ **DataComm / DLS**
 - ✓ AMAN/TBFM
- ▶ On European side close cooperation of SDM and SJU under **SESAR umbrella, ensuring a single SESAR approach** for DLS implementation, coordinated with FAA partners and globally.

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(Davide Corinaldesi)
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- ✓ **16.00 – 16.15 - Path II: Multistakeholder project**
- ✓ **16.15 – 16.30 - Closing Remarks**
(Nicolas Warinsko)

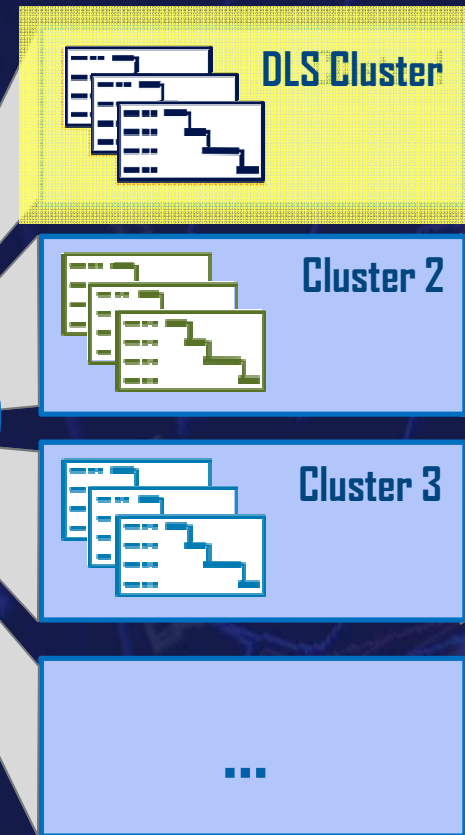
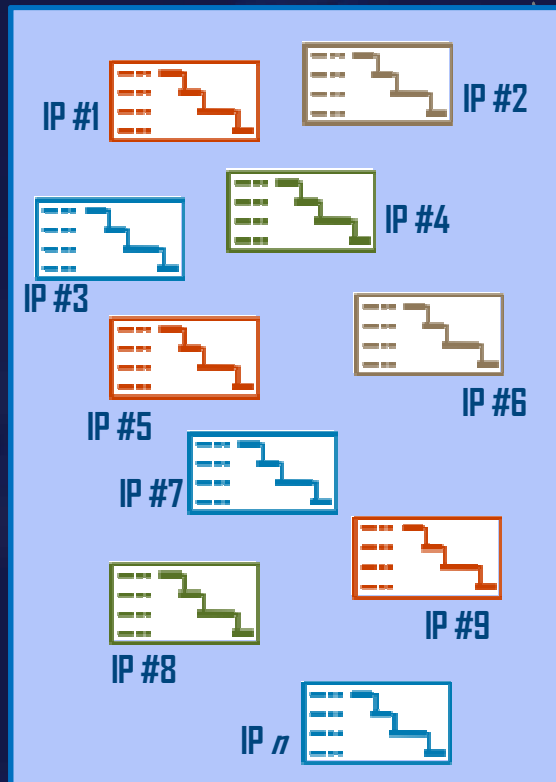
13 OCT 2016

Around 30% of the budget allocated to Common Projects (€ 80 mln) dedicated to implement Datalink Capability

- "Implementation projects presented under the above-mentioned recovery plan must follow the planning proposed in the applications"

- [...] **Major deviations** from the approved planning or **poor progress of a project** will trigger the relevant provisions on **suspension and termination applicable to the specific grant agreement**”

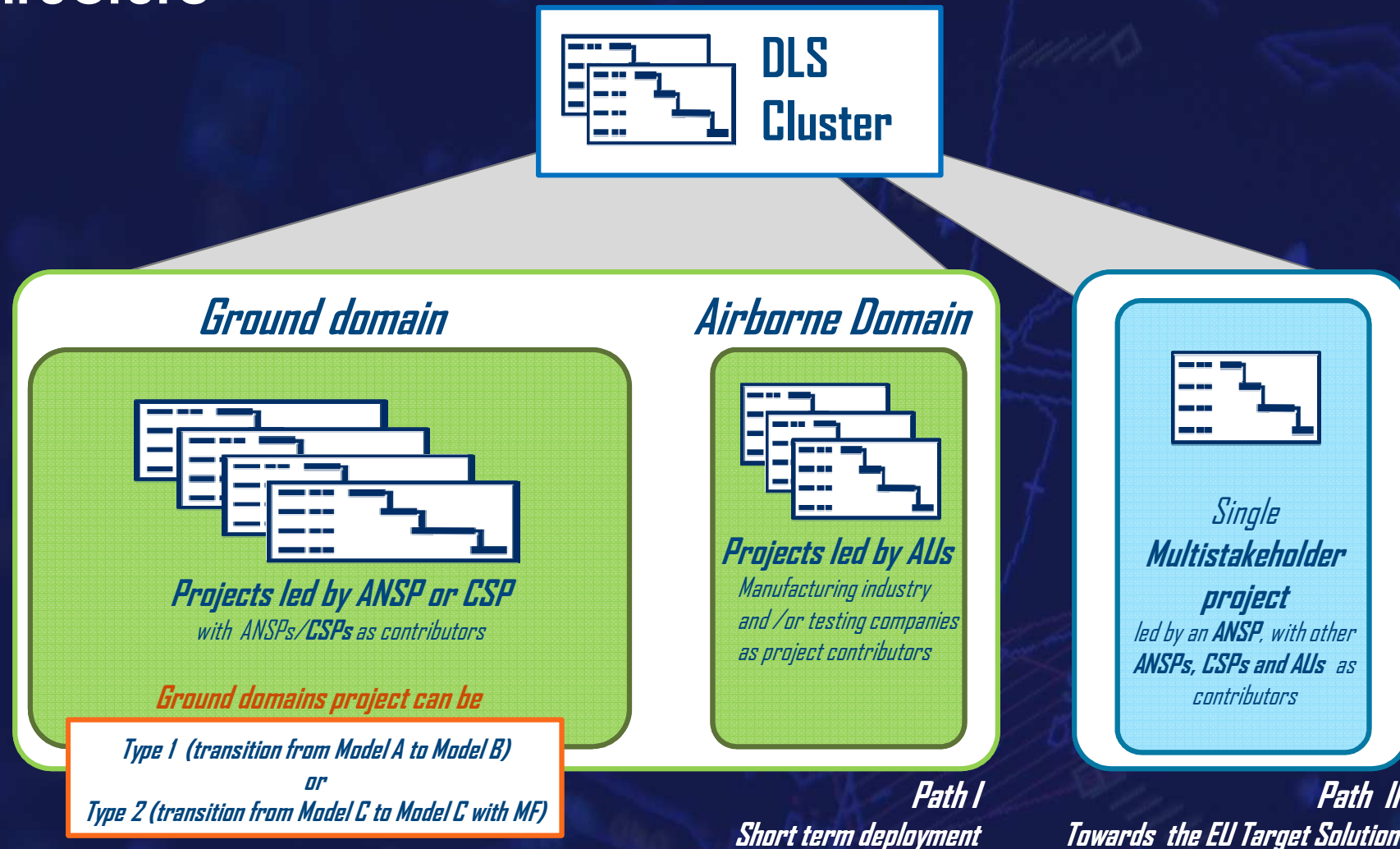
2016 CEF Transport Calls – High level proposal structure



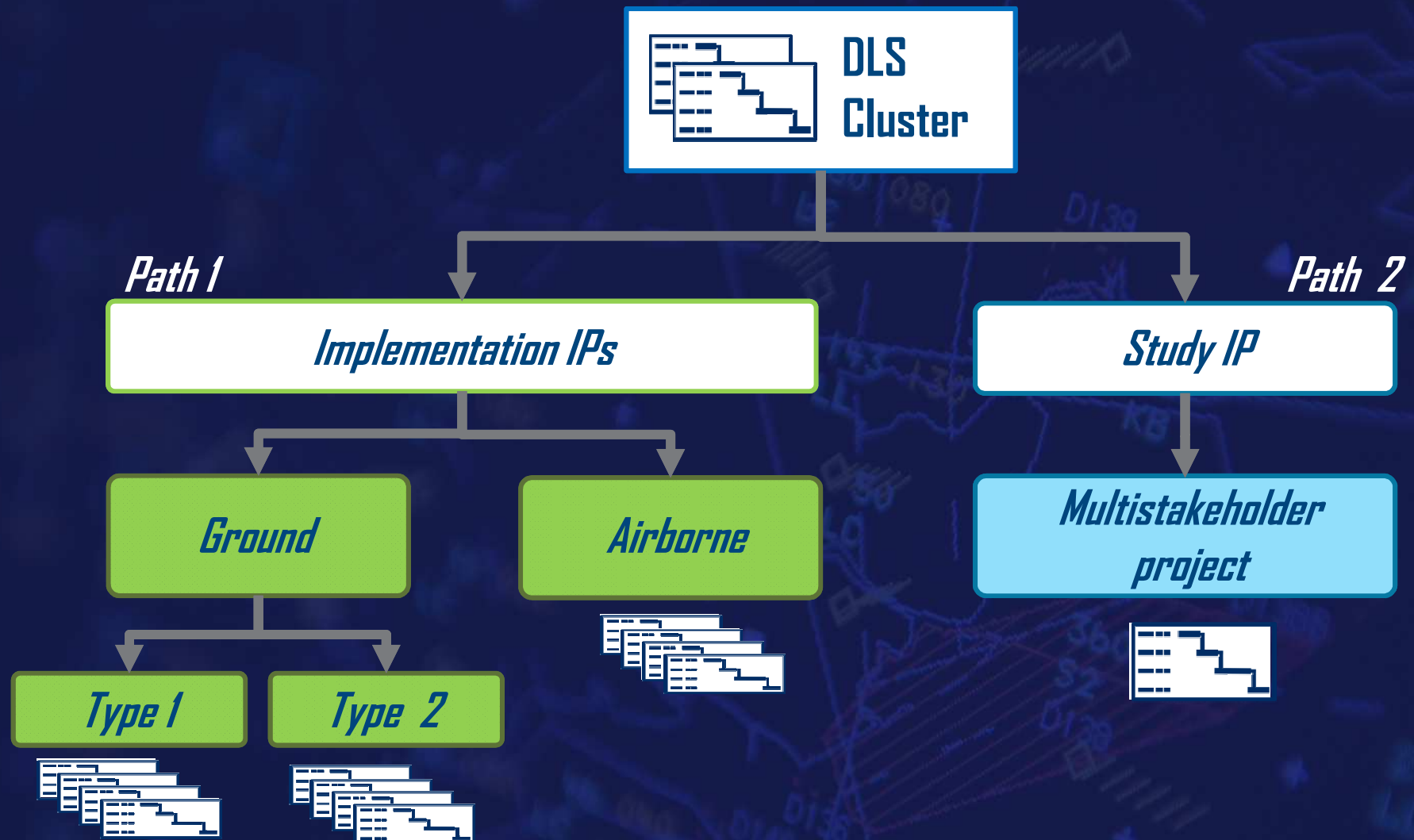
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2016 CEF Transport Calls – DLS Cluster Envisaged Structure

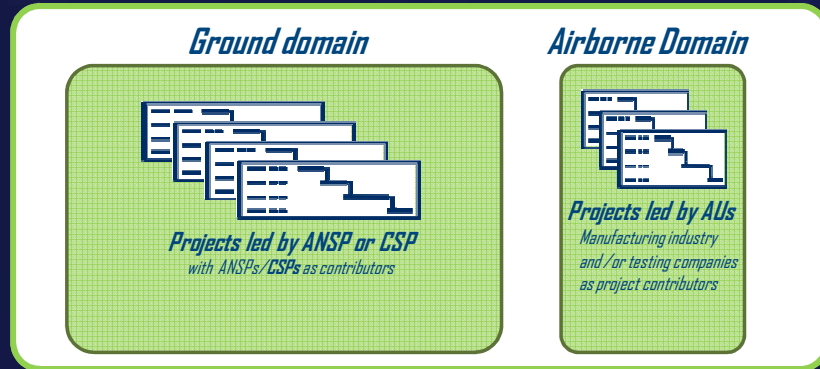


2016 CEF Transport Calls – DLS WBS



2016 CEF Transport Calls – Next steps

PATH I - SHORT TERM DEPLOYMENT



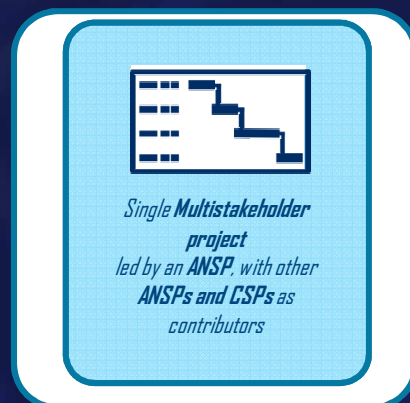
NEXT STEPS

- ✓ Coordination among the involved stakeholders in order to **identify the Project Leaders and the Project Contributors.**
- ✓ Elaboration of the IP templates according to the mockup templates provided in the DLS Recovery Plan for the IP proposal type 1 and 2 .



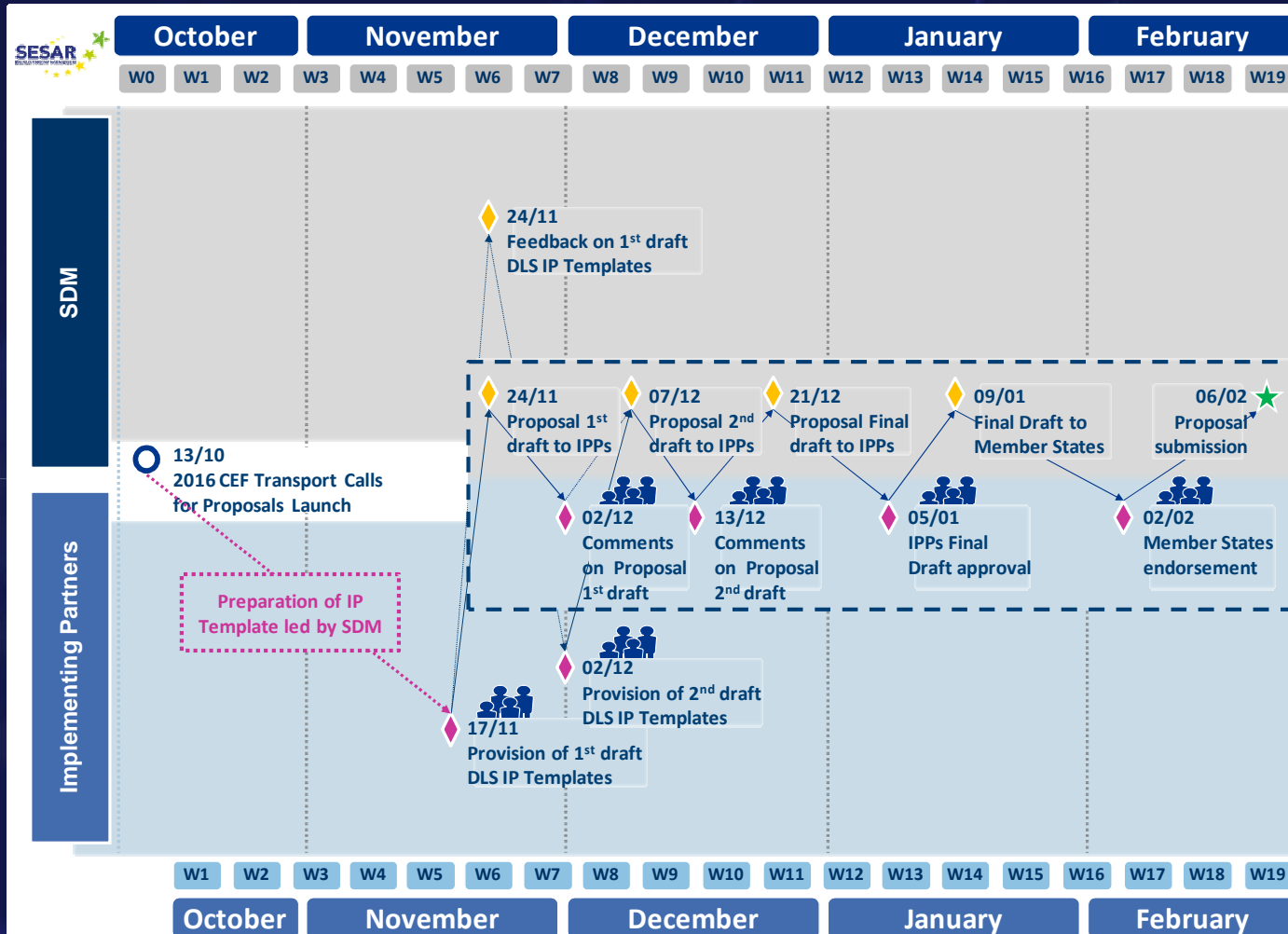
- ✓ The SDM will provide a Plan of cooperation the next week in order to coordinate the next steps for the IP submission for the 2016 CEF Transport Calls.

PATH II - TOWARDS THE EU TARGET SOLUTION



- ✓ Coordination among the involved stakeholders in order to **identify the Project Leader and the Project Contributors.**
- ✓ Elaboration of the IP template according to the template proposed.

2016 CEF Transport Calls Responses Preparation – DLS timeline



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(*Davide Corinaldesi*)
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(*Nicolas Warinsko*)

Ground domain – overview from DLS recovery Plan

Ground domain – Implementation projects

IP type 1

Starting Current Model	What	When
Model A	Model B, as intermediate step towards Model D	By 2018
Model C	Model C with MF, as intermediate step towards Model D	

IP type 2

Implementation projects – IP type 1

Prerequisites

IP type 1 – From Model A to Model B

Prerequisites:

- 1. The Implementation project has to be focused on ATS provision;*
- 2. the country/Region, submitting the IP, has already implemented Model A;*
- 3. Availability of the fifth frequency* for VDL M26.*

The addition of the 5th VDL frequency over the current 4 VDL frequency allocation shall be fostered at ICAO FMG Allotment plan level. The next ICAO FMG meeting will be held in November 2016 and a decision is foreseen) NOTE : the VDL frequency allotment plan will be discussed at next FMG meeting -14-16 November 2016)

Implementation projects – IP type 1

IP Proposal type 1 – From Model A to Model B		
Project Leader	ANSP/ANSPs or CSP/CSPs*	
Project Contributors	ANSP/ANSPs or CSP/CSPs	
Project's Tasks		
Number	Title	Description
1	Project Management	<p>Project management activities (including planning, execution, monitoring, control and closing) to ensure the achievement of the required performance levels.</p> <p>It is also expected that the monitoring results will be provided according to the timelines and mechanisms defined by SDM. Specifically, relevant data on the performance level are expected to be coordinated and provided to the Network Manager to ensure a proper performance monitoring.</p> <p>Furthermore, a contribute to end to end certification process, as necessary, is expected</p>
2	A/G network design	<p>According to the SDM Guidelines and bilateral coordination, for each RF network, it is expected the definition of the new MF VGS configuration starting from the existing one:</p> <ul style="list-style-type: none">• En-route layer definition: identifying the VGS to be upgraded to the en-route frequency to cover the airspace defined by IR and ANSPs requirements• TRM layer definition: identifying the VGS to be upgraded to the GND frequency to cover the airspace defined by ANSPs (relevant airports are expected to be considered also to discharge AOC from other frequencies)• Coordination with neighbour's countries avoiding overlap of coverage is required.
3	G/G network design (if needed)	<p>According to the SDM Guidelines, the following activities are expected to be performed:</p> <ul style="list-style-type: none">• reconfiguration or upgrade of the existing ATN networks• reconfiguration or upgrade of the G/G data distribution network• Coordination with neighbors' Countries simplifying the ATN chain (for example, limiting the number of ATN A/G routers) and facilitating the data exchanges

* CSPs could lead such IPs, with ANSPs as contributors. However, their leadership should be justified by the fact that it facilitates defragmentation of implementation. Therefore, an IP led by a CSP could be submitted only if addressing at least 2 countries and if ANSPs of the addressed countries (at least 2) are project contributors.

Implementation projects – IP type 1

IP Proposal type 1 – From Model A to Model B		
Project Leader	ANSP/ANSPs or CSP/CSPs	
Project Contributors	ANSP/ANSPs or CSP/CSPs	
Project's Tasks		
Number	Title	Description
4	Support systems design (if needed)	According to the SDM Guidelines, the following activities are expected to be performed: <ul style="list-style-type: none">Upgrade of performance monitoring system including the support to the Performance monitoring functionUpgrade of network management systemUpgrade of recording system
5	Interfaces design (if needed)	According to the SDM Guidelines, the following activities are expected to be performed: <ul style="list-style-type: none">reconfiguration or upgrade of existing internal interfaces (including front-end processors)reconfiguration or upgrade of existing external interfaces
6	Infrastructure deployment	Implementation of the all the elements designed in the previous tasks for DLS systems upgrade to MF reaching Model B (This task includes testing).
7	Operational acceptance	After the infrastructure deployment and the related technical verification of the new systems, the Operational acceptance, including final testing, has to be performed by the ANSPs in order to evaluate the new systems introduction in operation checking.
8	Operational transition	Considering the current Model A already in operation, an operational transition plan has to be produced in order to guarantee the continuity of service in transition forward Model B.
9	Analysis of the future evolution to Model D	In order to facilitate the achievement of the target model in accordance to SDM Addendum 1, this task aims at identifying the evolution of the implemented model towards model D in full coordination with the SDM.

Implementation projects – IP type 2

Prerequisites

IP type 2 – From Model C to Model C with MF

Prerequisites:

- 1. The Implementation project has to be focused on ATS provision;*
- 2. The country/Region, submitting the IP, have already implemented Model C;*
- 3. Availability of the fifth frequency for VDL M2 (the addition of the 5th VDL frequency over the current 4 VDL frequency allocation shall be fostered at ICAO FMG Allotment plan level. The next ICAO FMG meeting will be held in November 2016 and a decision is foreseen).*

Implementation projects – IP type 2

IP Proposal type 2 – From Model C to Model C with MF		
Project Leader	ANSP/ANSPs or CSP/CSPs*	
Project Contributors	ANSP/ANSPs or CSP/CSPs	
Project's Tasks		
Number	Title	Description
1	Project Management	<p>Project management activities (including planning, execution, monitoring, control and closing) to ensure the achievement of the required performance levels.</p> <p>It is also expected that the monitoring results will be coordinated and provided according to the timelines and mechanisms defined by SDM. Specifically, relevant data on the performance level are expected to be coordinated and provided to the Network Manager to ensure a proper performance monitoring</p> <p>Furthermore, a contribute to end to end certification process, as necessary, is expected</p>
2	A/G network design	<p>According to the SDM Guidelines and bilateral coordination, it is expected the definition of the new MF VGS configuration starting from the existing one:</p> <ul style="list-style-type: none">• En-route layer definition: identifying the VGS to be upgraded with the en-route frequency to cover the airspace defined by IR and ANSPs requirements• TRM layer definition: identifying the VGS to be upgraded to the GND frequency to cover the airspace defined by ANSPs (relevant airports are expected to be considered also to discharge AOC from other frequencies)• Coordination with neighbour's Countries to minimise the coverage overlap and to consider the common interoperability aspects (choose of frequencies).• Coordination with CSPs to optimize A/G network

* CSPs could lead such IPs, with ANSPs as contributors. However, their leadership should be justified by the fact that it facilitates defragmentation of implementation. Therefore, an IP led by a CSP could be submitted only if addressing at least 2 countries and if ANSPs of the addressed countries (at least 2) are project contributors.

Implementation projects – IP type 2

IP Proposal type 2 – From Model C to Model C with MF		
Project Leader	ANSP/ANSPs or CSP/CSPs	
Project Contributors	ANSP/ANSPs or CSP/CSPs	
Project's Tasks		
Number	Title	Description
3	G/G network design (if needed)	According to the SDM Guidelines, the following activities are expected to be performed: <ul style="list-style-type: none">reconfiguration or upgrade of the existing ATN networksreconfiguration or upgrade of the G/G data distribution networkCoordination with neighbors' countries simplifying the ATN chain (for example, limiting the number of ATN A/G routers) and facilitating the data exchanges (interconnection aspects)
4	Support systems design (if needed)	According to the SDM Guidelines, the following activities are expected to be performed: <ul style="list-style-type: none">Upgrade of performance monitoring system including the support to the Performance monitoring functionUpgrade of network management systemUpgrade of recording system
5	Interfaces design (if needed)	According to the SDM Guidelines, the following activities are expected to be performed: <ul style="list-style-type: none">reconfiguration or upgrade of existing internal interfaces(including front-end processors)reconfiguration or upgrade of existing external interfaces in cooperation with CSPs
6	Infrastructure deployment	Upgrade implementation of the DLS systems, according to SDM Guidelines. (This task includes testing).
7	Operational acceptance	After the infrastructure deployment and the enclosed technical verification of the new systems, the Operational acceptance, including final testing, has to be performed by the ANSPs in order to evaluate the introduction in operation of the new systems.
8	Operational transition	Considering the current Model C already in operation, an operational transition plan has to be produced in order to guarantee the continuity of service in transition forward Model C with MF.
9	Analysis of the future evolution to Model D	In order to facilitate the achievement of the target model in accordance to SDM Addendum 1, this task aims at identifying the evolution of the implemented model towards model D in full coordination with the SDM.

Discussion

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(*Nicolas Warinsko*)

Airborne domain – overview from DLS recovery Plan

Airborne domain – Implementation projects

What	When
Upgrade to ATN B1 multi frequency avionic successfully assessed “best in class” by ELSA study	By 2020
Upgrade to ATN B1 multi frequency avionic not tested against “best in class” criteria in ELSA, subject to demonstration of equivalent minimum level of performance as part of the proposal or commitment to demonstrate equivalent minimum level of performance prior to implementation	By 2020

Implementation projects - Airborne domain

Upgrade to ATN B1 multi frequency avionics to “best in class”		
Project Leader	Airspace Users	
Project Contributors	Manufactures and/or Testing Company <i>(if needed)</i>	
Project’s Tasks		
Number	Title	Description
Task 0*	Testing of ATN B1 MF avionics not yet tested	Testing of ATN B1 MF avionics against “best in class” criteria in ELSA, subject to demonstration of equivalent minimum level of performance as part of the proposal or commitment to demonstrate equivalent minimum level of performance prior to implementation.
Task 1	Project Management	Project Management activities in order to ensure the necessary equipment of the impacted fleet and contribute to end to end certification as necessary
Task 2	Equipment procured	Procurement of all necessary hardware and software components required for the upgrade
Task 3	Aircraft equipped	Installation and integration in onboard systems of all aircraft in the respective fleet
Task 4	Procedures and training available	Elaboration and approval process of operational and pilot procedures and training packages (also the revision of current procedures to avoid unnecessary avionics reset has to be considered)
Task 5	Training completed	Training activities attended by crews focus on the use of the equipment

* Tasks 1 to 6 are subject to Task 0 outcome. In order to further optimise testing effort, Task 0 of several IPs may be regrouped into a specific IP dedicated to testing for which manufacturers and/or testing company could be contributors.

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(*Nicolas Warinsko*)

Path II: Multistakeholder project – main tasks

The following template is not detailed in the DLS Recovery Plan, a part of the list of tasks:

IP Proposal - Multistakeholder Project		
Project Leader	ANSP	
Project Contributors	ANSP/ANSPs plus AUs plus CSP/CSPs	
Project's Tasks		
Number	Title	Description
1	Support to SDM in Service Design and Technical architecture	Support to SDM in the definition of technical architecture at Service Area level in terms of components, interfaces and exchanged data on the basis of the SDM DL Strategy and the ELSA study results. In addition, this task includes the support to the definition of the overall technical architecture at European Level, including the functional design of the interfaces among the identified Service Areas. Moreover, as part of the architecture definition, the following points have to be addressed: <ul style="list-style-type: none">• Identification of improvements on legacies DL infrastructures;• Use of PENS to connect G/G (BIS) routers;• IoP improvements of the ATN DL Networks operated by different entities.
2	Support to SDM in elaboration of a Business Case	Support to SDM in the elaboration of a dedicated Business Case, through the analysis of different scenarios in order to ensure the achievement of the European target solution
3	Analysis of the services to be provided by the new Model	Support to SDM in the detailed analysis of all the services that are needed to be provided by the European Target solution in order to ensure a synchronized and full deployment throughout Europe
4	Definition of an European Common DLS Governance	Definition of an European Common DLS Governance, in terms of roles and responsibilities, processes needed for a common approach for DLS deployment. The establishment of DLS Governance is an essential facilitator for the coordinated deployment of DLS.
...		

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(Nicolas Warinsko)

Closing remarks



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