



Hrabove
17-07-2014

FLIGHT MH17

Field investigation, Recovery and
Reconstruction

Ron Smits

Reykjavik ISASI 2016



A mission beyond the border

How to come and how to organize?

Exceptional circumstances

298 victims from
10 different countries

Crash site in
conflict zone

Criminal investigation
and identification

member
es

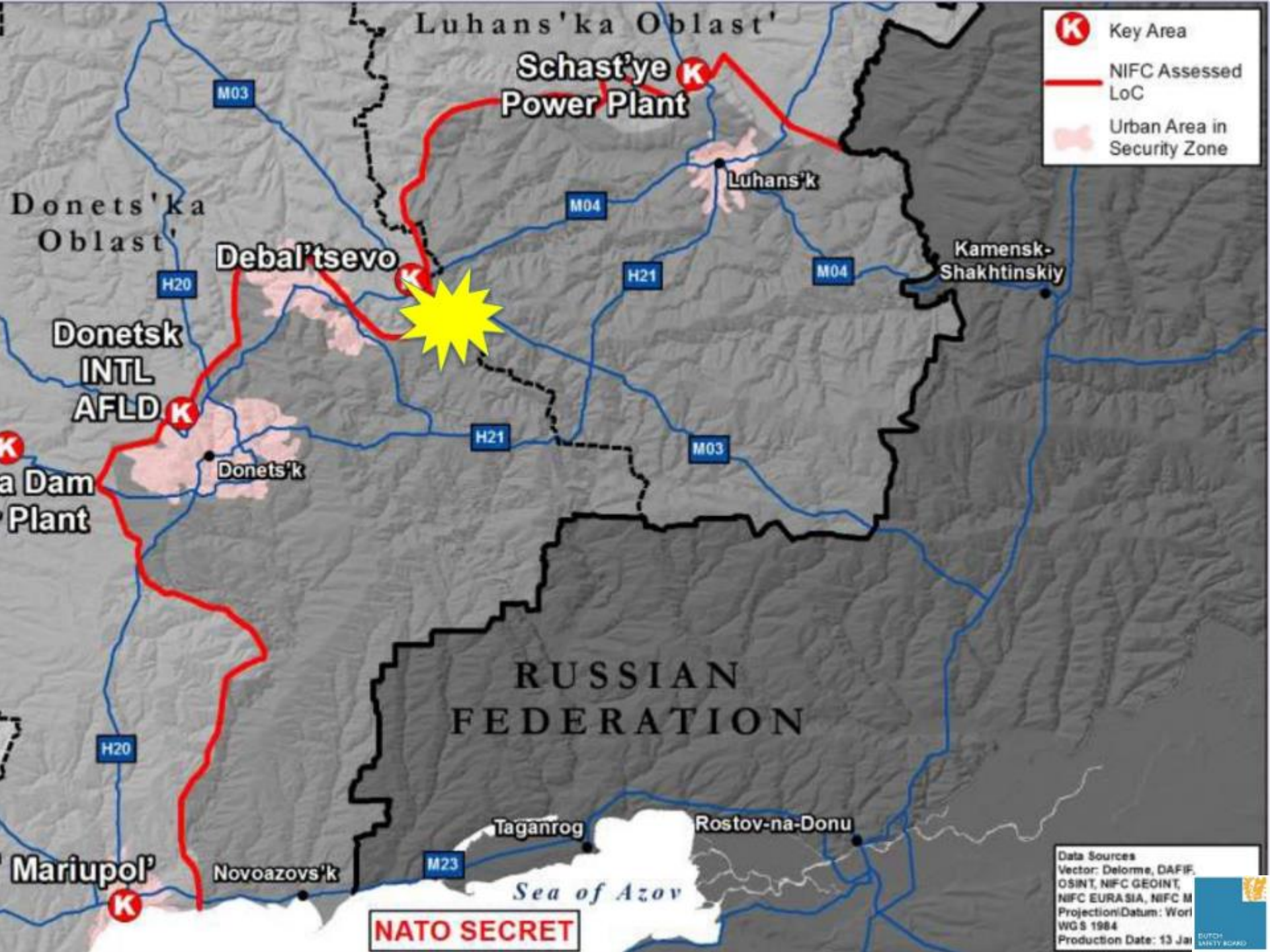


RUSSIA

■ **MOSCOW**

■ **Kiev**
UKRAINE

500 mi



K Key Area

— NIFC Assessed LoC

Urban Area in Security Zone

Data Sources
Vector: Delorme, DAFIF,
OSINT, NIFC GEOINT,
NIFC EURASIA, NIFC M
Projection/Datum: World
WGS 1984
Production Date: 13 Jan 2024





NATO SECRET

If somebody is able to retrieve,

Top 10 - Wreckage parts

Analysable wreckage parts and known location

Item	image	description	location
		Detail: Left wing tip Scan impact holes/ direction	48° 07' 48. 65" N 38° 37' 59 34" E Of 48° 07' 47. 96" N 38° 37; 57.72" E

If somebody is able to retrieve, Top 10 - Wreckage parts

Analysable wreckage parts and known location

Item	Image	description	location
		<p>Scan cockpit floor impact holes / direction</p> <p>Dimensions App. 3 x 3 m</p> <p>Grey part (including part in circles) may be detached from other parts</p> <p>Weight: app 100 kg</p>	<p>48°07'21 56"N</p> <p>38°33'25. 94"E</p>

If somebody is able to retrieve, Top 10 - Wreckage parts

Analysable wreckage parts and known location

Item	image	description	location
		Skin panel below left cockpit window Dimensions: App. 2 x 1,5 m 5 – 10 kg	48°08'22. 5" N 38°31'57. 04" E





ЛЕНИН





Second attempt Soledar August 3 - 8 2014

Next step

Board Chairman

Go pick it up,do some thing , but:

- It is a war zone

- You need admission to the area, who has the power

- What is possible

Plan

- Field investigation if possible

- Recovery of the important wreckage parts

- If 2 succeeds Reconstruction

End September 2014



Charkiv October 2014

Sphere of action - 60 km²

Orlovo-Ivanivka

Stryukove

Rozsypne

Petropavlivka

01(1/1)

Final position-FDR

ELT2

ELT3

main box

main box

stab mount

left wingtip

last secondary target

Krasnyi Luch

cockpit

Rozsypne

right wingtip

right wingtip

Stizhkove

Balochne

Moskovs'ke

aky

Rivne



path MH17



Wreckage area 1

Final position FDR

lost contact

cockpit

Debris area 3

Main wreckage area
main box
stab mount
left wingtip
right wingtip

Wreckage area 2

5 Km

Image © 2014 CNES / Astrium
Image © 2014 DigitalGlobe



METHODOLOGICAL PRIORITY

Small >> Large

Roads >> Field

Villages >> Open Field

Accessible >> Inaccessible





PLANNING

Removing wreckage 1e priority 6days

1 crane, 2 flatbed lorries, manual labour

12 coal (train) wagons

Transfer Charkiv to Gilze Airbase 18 lorries.



End October 2014

Priority Dutch government

During the mission

Recovery body parts

Recovery personal belongings

Recovery wreckage parts

Criminal investigation

OCSE

IP-CJIATF MH17

Police [JIT]

DSB

Who has the power?



Key players



NO STEP







Exce



November, 3 -14 2014, recovery body parts



November, 3 -14 2014, recovery body parts

The Dutch Safety Board (DSB), at the request of the Ukrainian Government and after consultation with the International Civil Aviation Organization (ICAO), was entrusted on 23 July 2014, on the basis of Annex 13 of the Convention on International Civil Aviation (ICAO Convention), with leading the independent international investigation into the cause of the crash of flight MH17 on 17 July 2014.

The details of the decision to give the DSB the leading role in the independent international investigation are elaborated in a Memorandum of Understanding between the Governments of Ukraine and the Kingdom of the Netherlands, and an agreement between the Ukrainian National Bureau of Air Accidents Investigation and the DSB.

Since 23 July 2014, the DSB has been leading the international team which consists of aviation experts from Malaysia, Ukraine, the Russian Federation, the United Kingdom, the United States, Australia and the Kingdom of the Netherlands. This is in line with Annex 13 of the ICAO Convention and Resolution 2166 of the UN Security Council, in which the need was underlined for a "full, thorough and independent international investigation into the incident in accordance with international civil aviation guidelines".

We shall ensure that Malaysia, Ukraine, the Russian Federation, the United Kingdom, the United States, Australia and the Kingdom of the Netherlands shall be able to participate in the investigation of the wreckage in the Netherlands.

The DSB shall take over the wreckage and shall undersign this protocol in its capacity as leader of the independent international investigation on the basis of Annex 13 of the ICAO Convention.

Hereby there is an agreement of the representative of the Ministry of Emergency Services, Donetsk region administration to hand over the MH-17 wreckage to the Dutch Safety Board as to the leader of independent international investigation team authorized to receive MH-17 wreckage.

On behalf of the Dutch Safety Board

R. Smits,
Co-ordinator
Operations MH17

Representative of the Ministry of Emergency Services

A. Kostrubitskiy

As witness
OSCE Special Monitoring Mission to Ukraine

*Deputy TL
November 17, 2014
Donetsk region administration*
Donetsk November 14, 2014

ДС

ПРОТОКОЛ

передачи

ОВ самолета Малазийских Авиалиний,

следовавшего рейсом МН17

14 ноября 2014 года



Field investigation



Location
&
Registration

Field investigation

Location
&
Registration

Instruction
&
Remarks



Field investigation

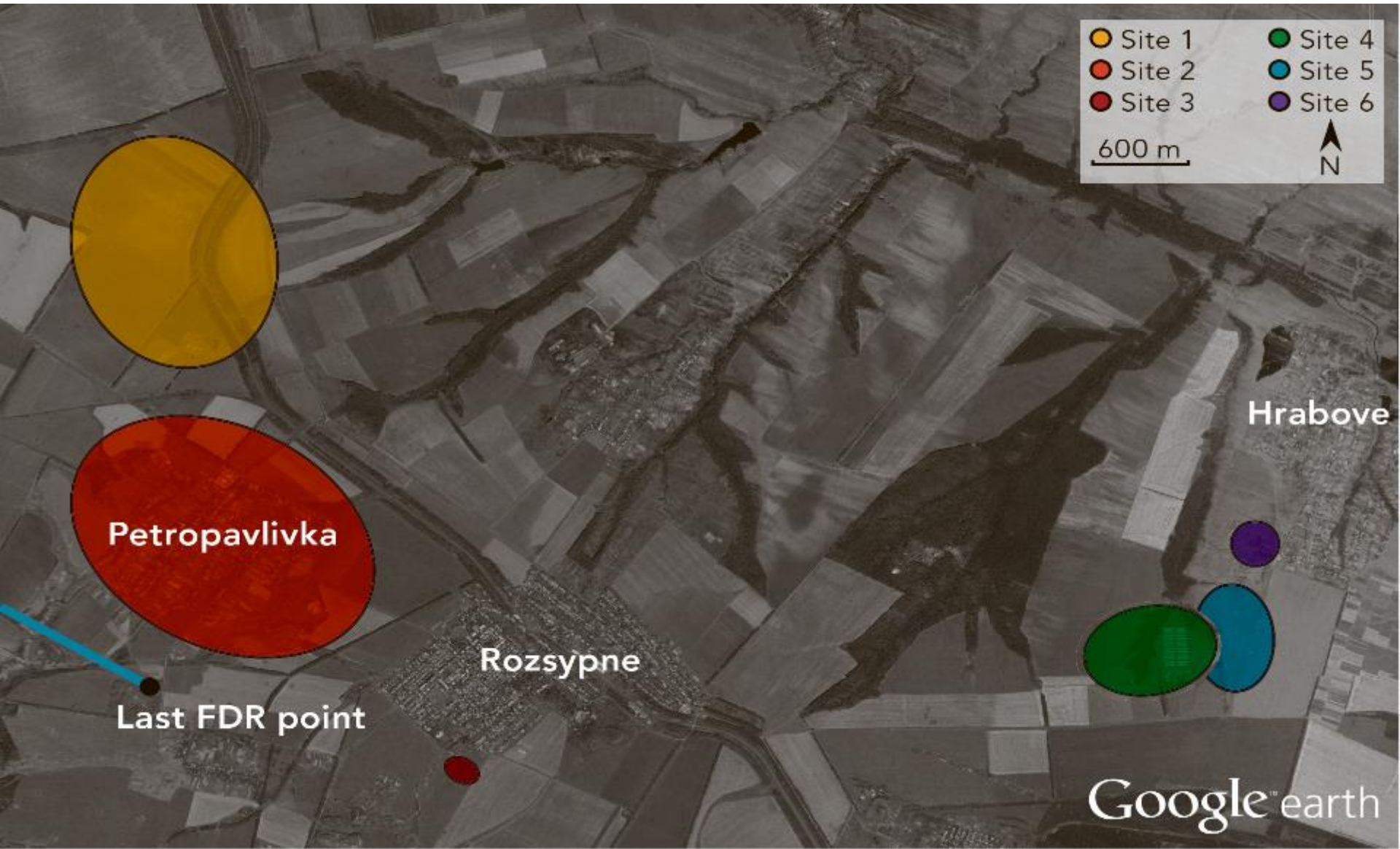
Location
&
Registration

Instruction
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Remarks

label



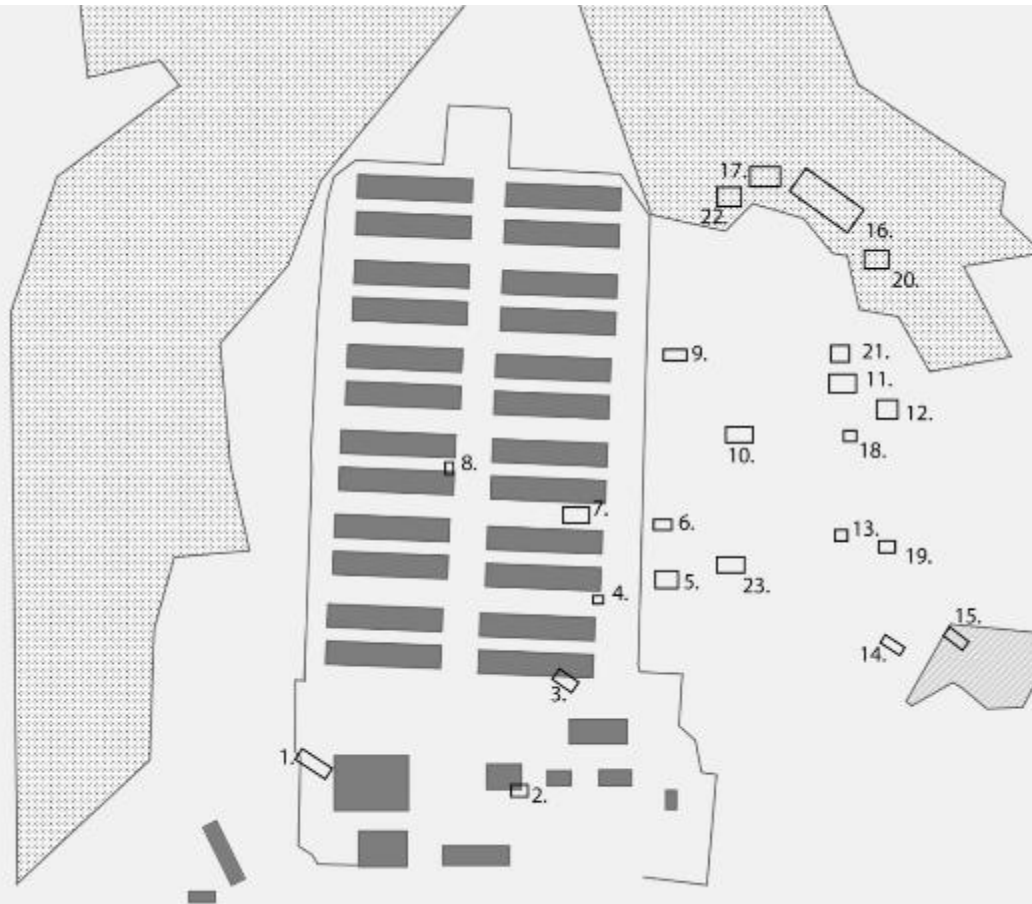
Field investigation



Field investigation



Field investigation



Site 4

Legend

□ Lake

▨ Forest

■ Building

□ Wreckage location

1. Left horizontal stabilizer

2. Fuselage with ELT antenna

3. Right wing tip

4. Small cargo door

5. Left flap

6. Right flap

7. Door 4L, surrounding fuselage and part of rear pressure bulkhead

8. Left hand fuselage between door 3 and 4

9. Left hand fuselage between door 3 and 4

10. Left hand fuselage with text "ia"

11. Right hand fuselage wing to body fairing with small cargo door frame

12. Bottom fuselage below door 4

13. Door frame door 4R and surrounding fuselage

14. Left wing tip

15. Right horizontal stabilizer

16. Right hand fuselage between door 3 and 4

17. Auxiliary Power Unit cone

18. Right inboard spoiler (8)

19. Left hand fuselage with partial text "sia"

20. Left spoiler

21. Right hand fuselage with text "9"

22. Part of rear pressure bulkhead

23. Part of rear pressure bulkhead

70 m N



Recovery of the wreckage









17.07.2014
НА УТРО 17.07.2014 ГОДА
ПОГИБЛИ В РЕЗУЛЬТАТЕ
КАТАСТРОФЫ В РЕГИОНЕ
ДОНЕЦКА И ТО ЧАСТИ
УБИЛИ 17 ЧЕЛОВЕК
В ТОМ ЧИСЛЕ РЕБЕНОК
СМЕРТИ НИТЕЛЫ ПОСЛЕДНИМ
РАССОИНОС
"АНСТЕРДАН", "КУВАМ", "ЛУНДЕ"

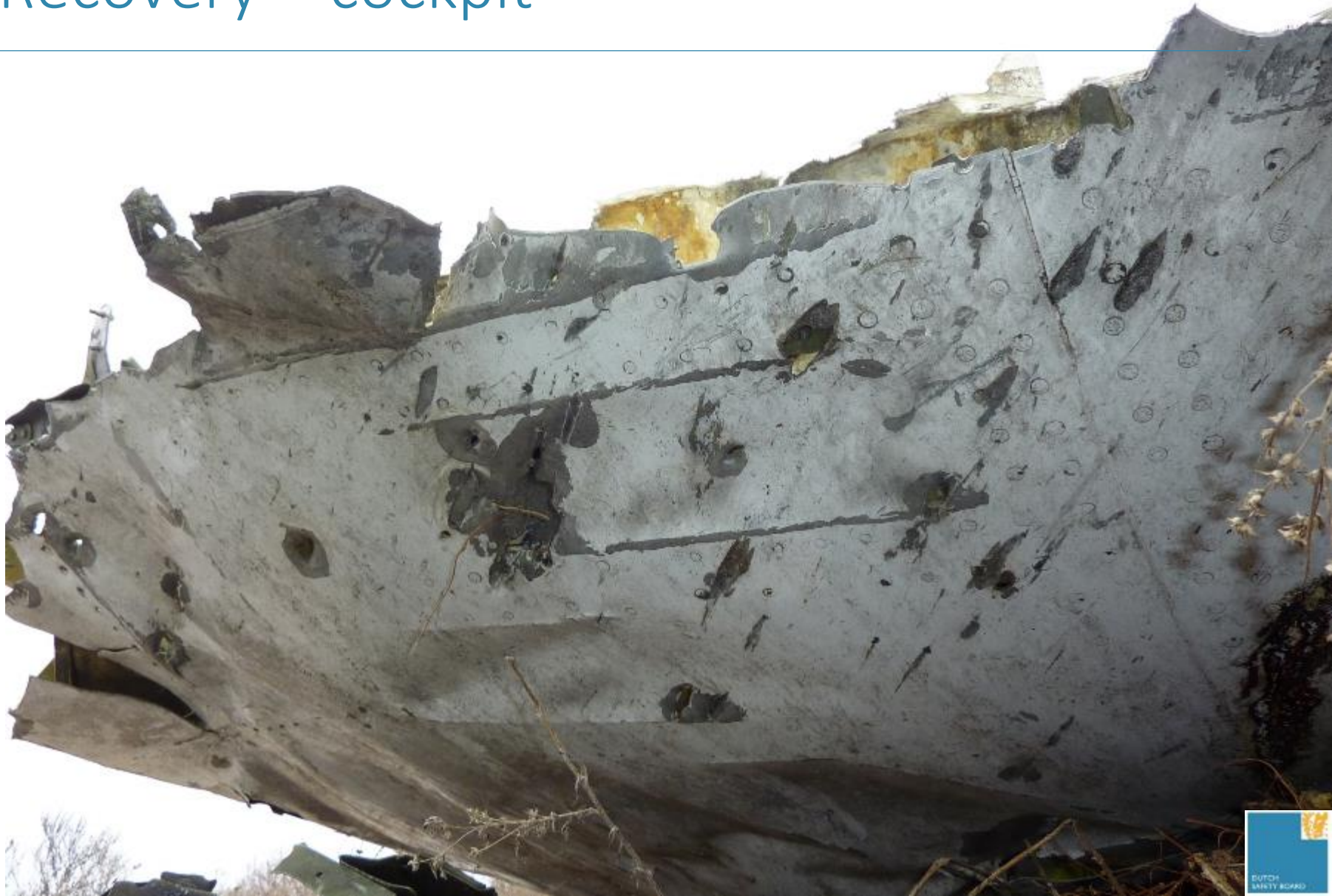
ВЕЧНАЯ ПАМЯТЬ ПОГИБШИМ
СМЕРТИ
НИТЕЛЫ ПОСЛЕДНИМ РАССОИНОС







Recovery - cockpit



Exceptional circumstances

The front office Donetsk

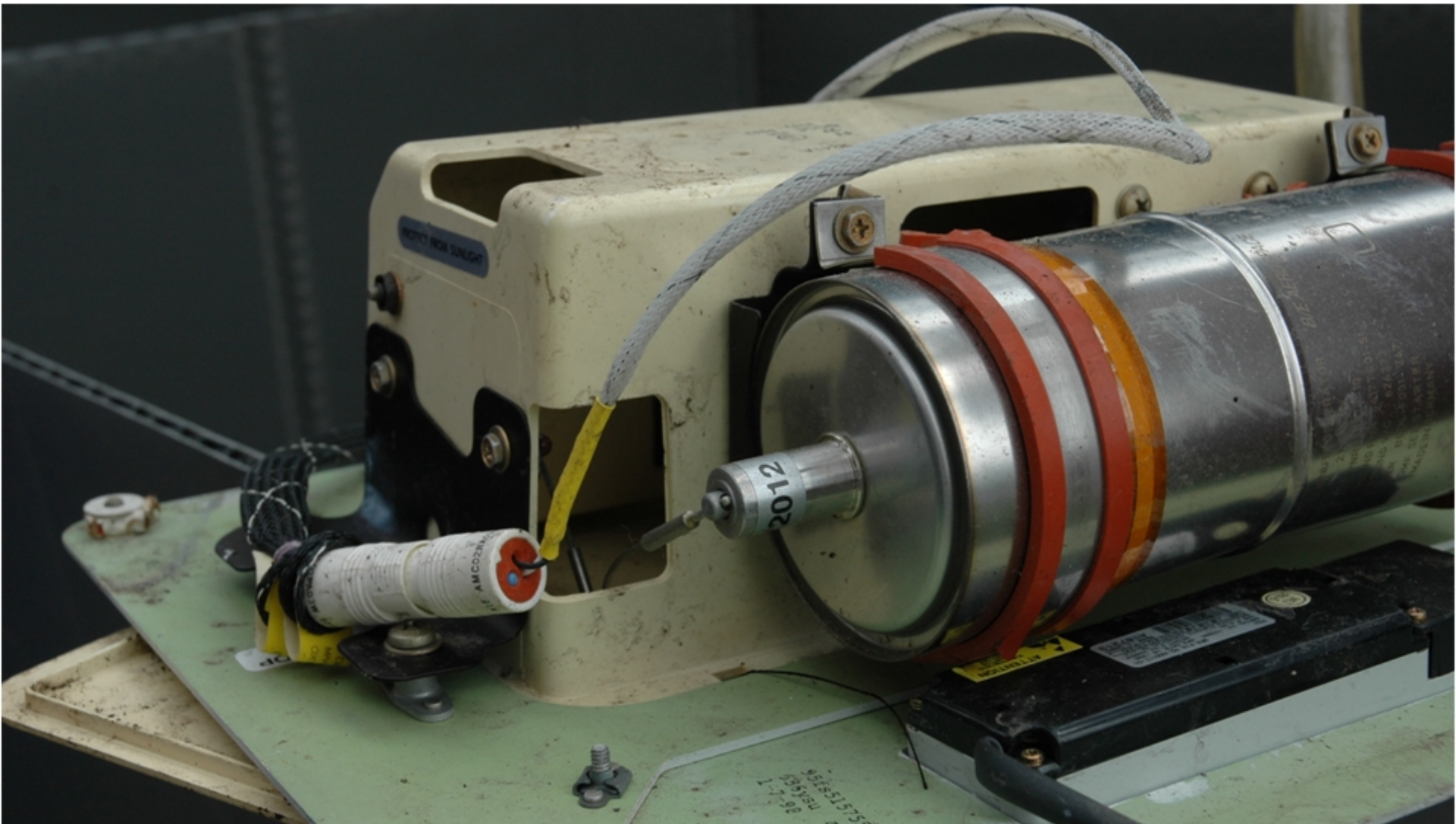


Exceptional circumstances



Point(s) of interest

Point(s) of interest



Point(s) of interest



Point(s) of interest



Point(s) of interest





*First Transfer final destination Gilze Airbase
December, 8 2014*

Exceptional circumstances



*First Transfer final destination Gilze Airbase
December, 8 2014*



Gilze Forensic examination, > January 2015

Recovery to Reconstruction

Not unique, but time limit September 2015

THE RECONSTRUCTION IS A (VISUAL) TOOL
AND SERVE AS HARD EVIDENCE

China Airlines CI611 (Taiwan)

Swiss 111 (Canada)

Pan AM103 (lockergie)

TWA 800* (USA)

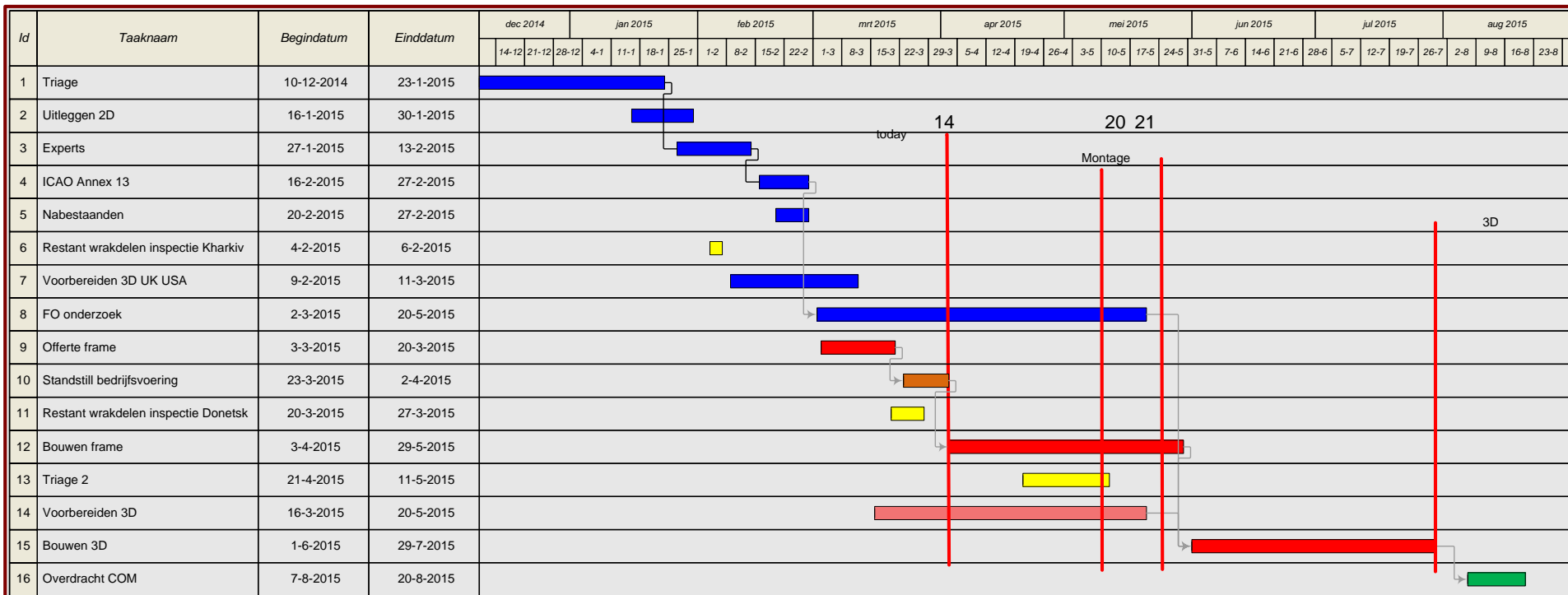
SUPPORT TO THE IDENTIFICATION AND EXCLUSION

February 2015



February 2015

Tension: Planning > Feasibility > Goal



Tension: Planning > Feasibility > Goal

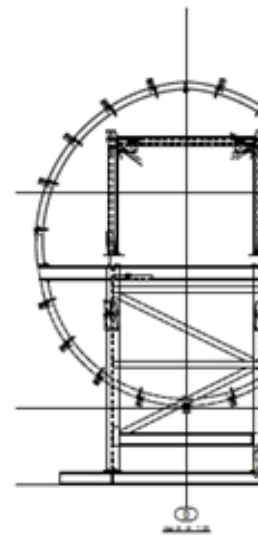
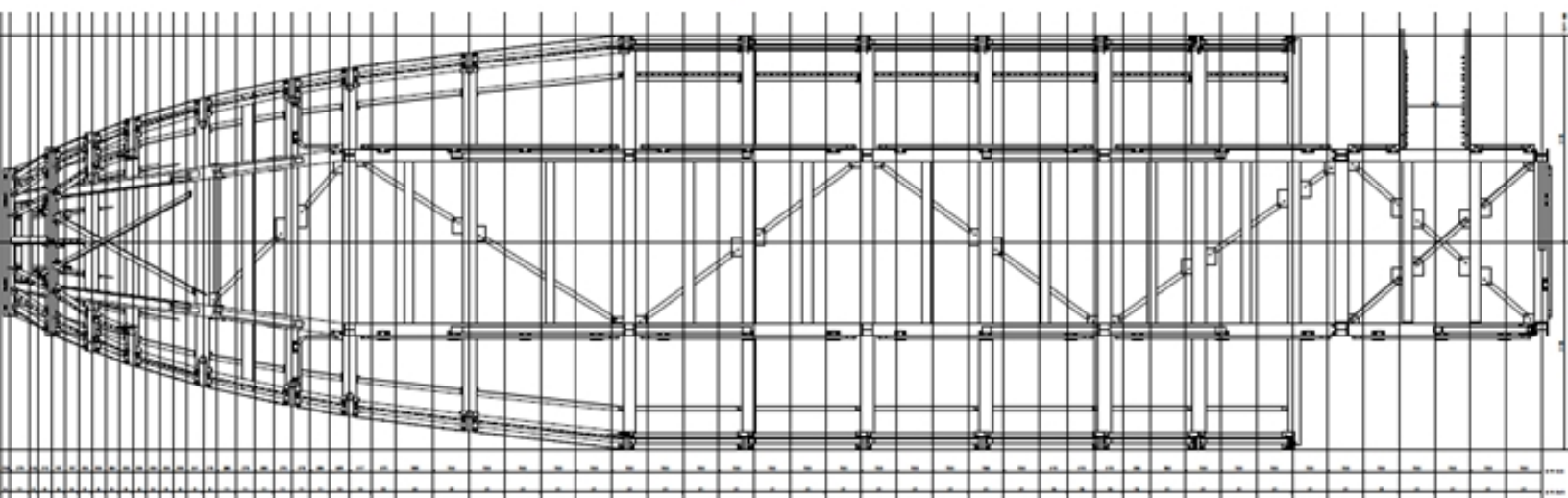
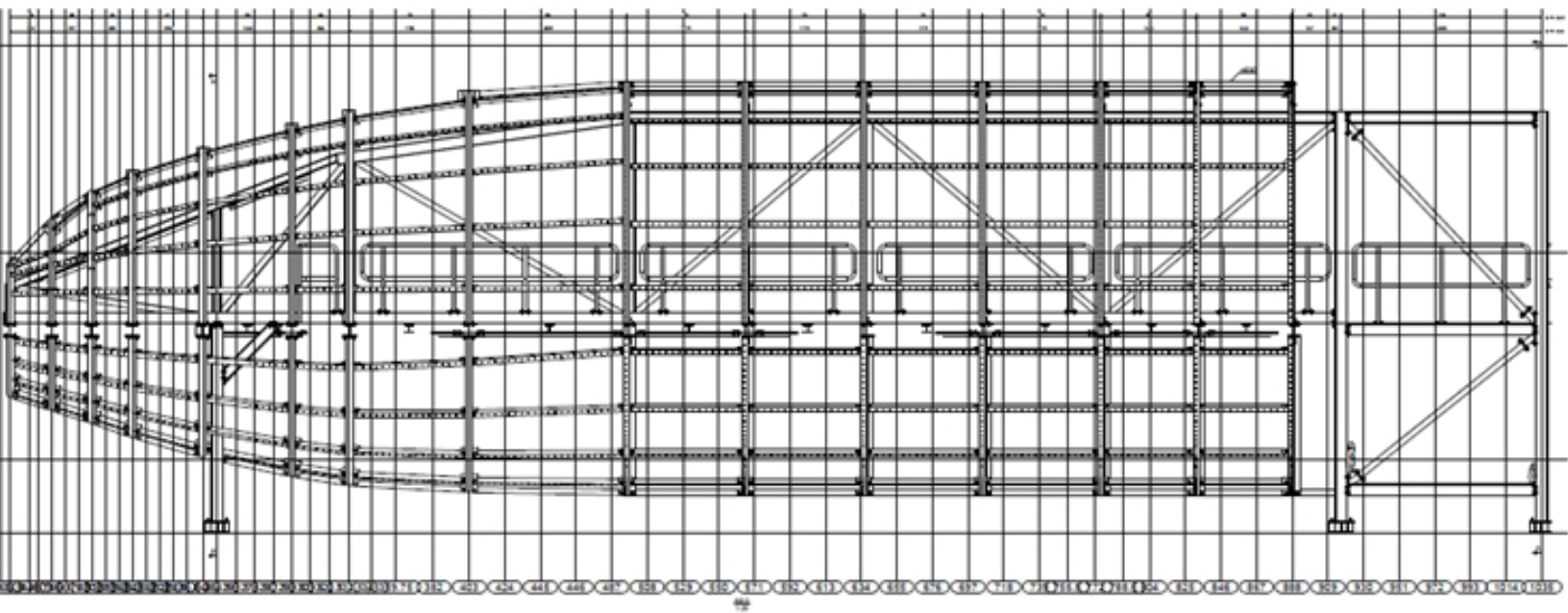
<i>Id</i>	<i>Taaknaam</i>	<i>Begindatum</i>	<i>Einddatum</i>
1	Triage	10-12-2014	23-1-2015
2	Uitleggen 2D	16-1-2015	30-1-2015
3	Experts	27-1-2015	13-2-2015
4	ICAO Annex 13	16-2-2015	27-2-2015
5	Nabestaanden	20-2-2015	27-2-2015
6	Restant wrakdelen inspectie Kharkiv	4-2-2015	6-2-2015
7	Vorbereiden 3D UK USA	9-2-2015	11-3-2015
8	FO onderzoek	2-3-2015	20-5-2015
9	Offerte frame	3-3-2015	20-3-2015
10	Standstill bedrijfsvoering	23-3-2015	2-4-2015
11	Restant wrakdelen inspectie Donetsk	20-3-2015	27-3-2015
12	Bouwen frame	3-4-2015	29-5-2015
13	Triage 2	21-4-2015	11-5-2015
14	Vorbereiden 3D	16-3-2015	20-5-2015
15	Bouwen 3D	1-6-2015	29-7-2015
16	Overdracht COM	7-8-2015	20-8-2015



Tension: Planning > Feasibility > Goal

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End May - August 15 2015



End May - August 15 2015



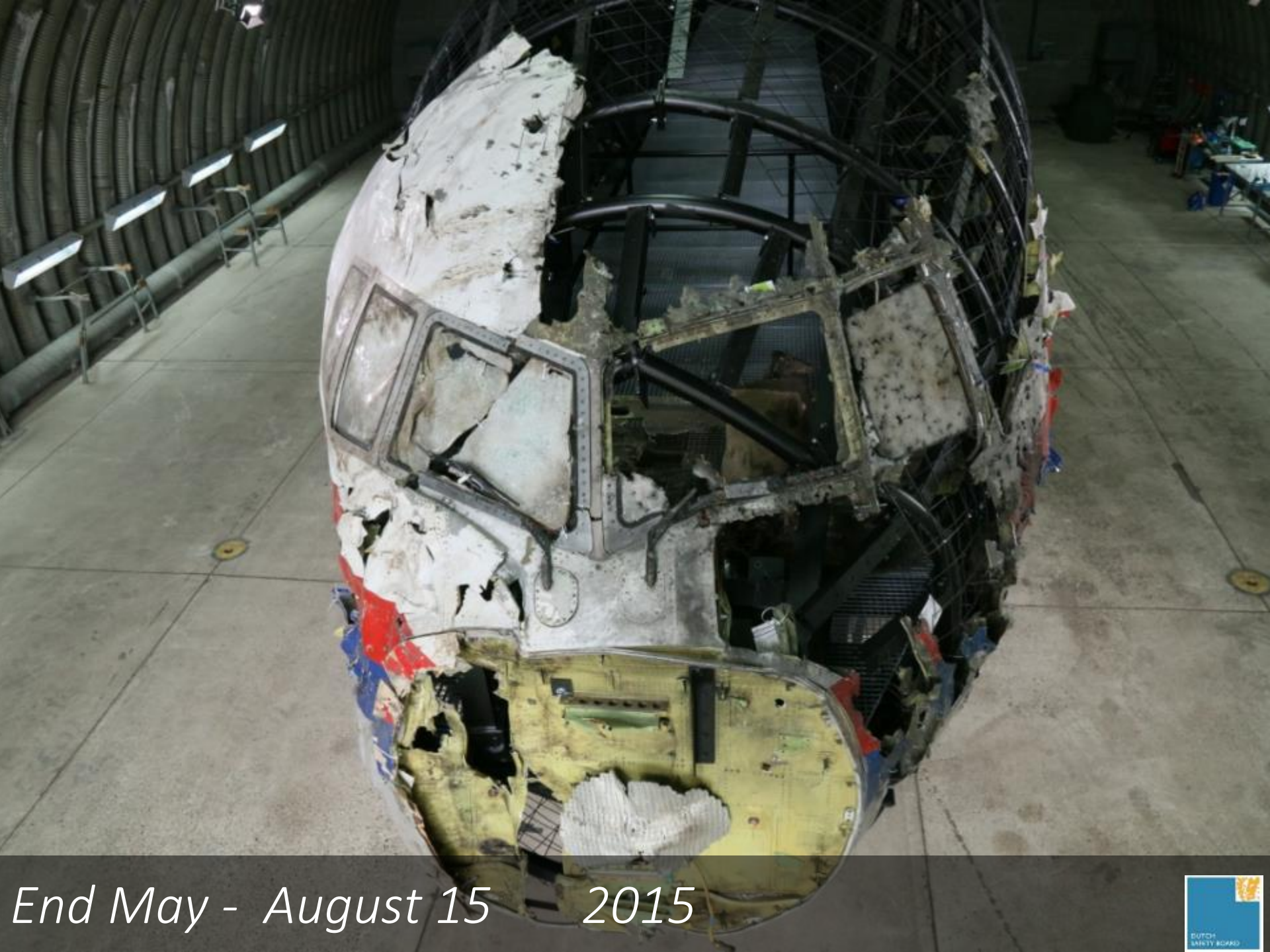
End May - August 15 2015



End May - August 15 2015



End May - August 15 2015



End May - August 15 2015

Simultaneous ; wrap up and reflection



May - July *2015*

May - July 2015





May - July 2015



May - July *2015*

Final Presentation



October 15, 2015

Final Presentation



October 15, 2015

Final Presentation



October 15, 2015



The goal was the driving force