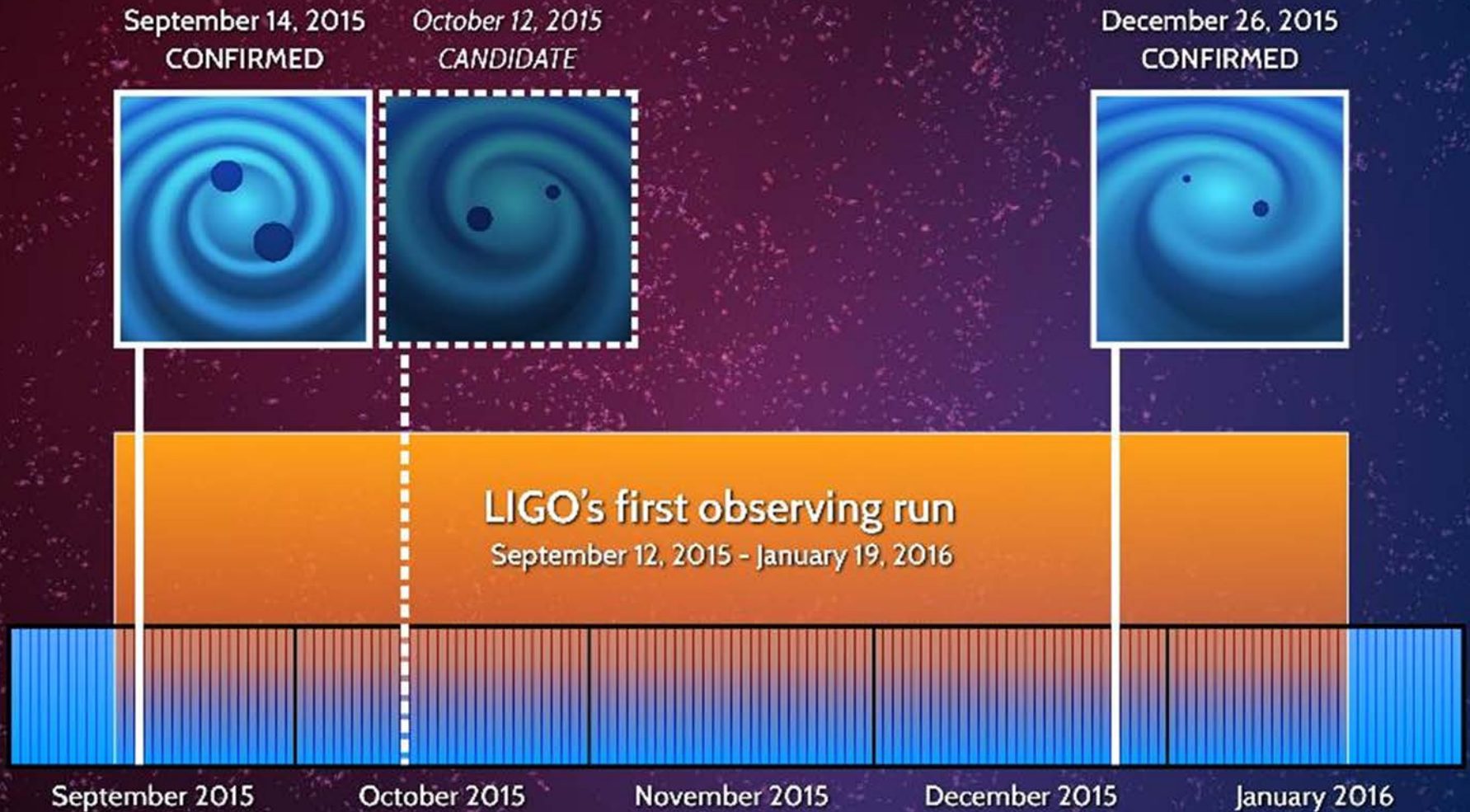


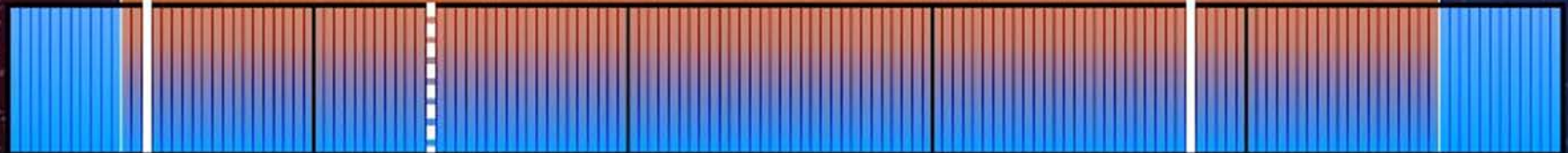
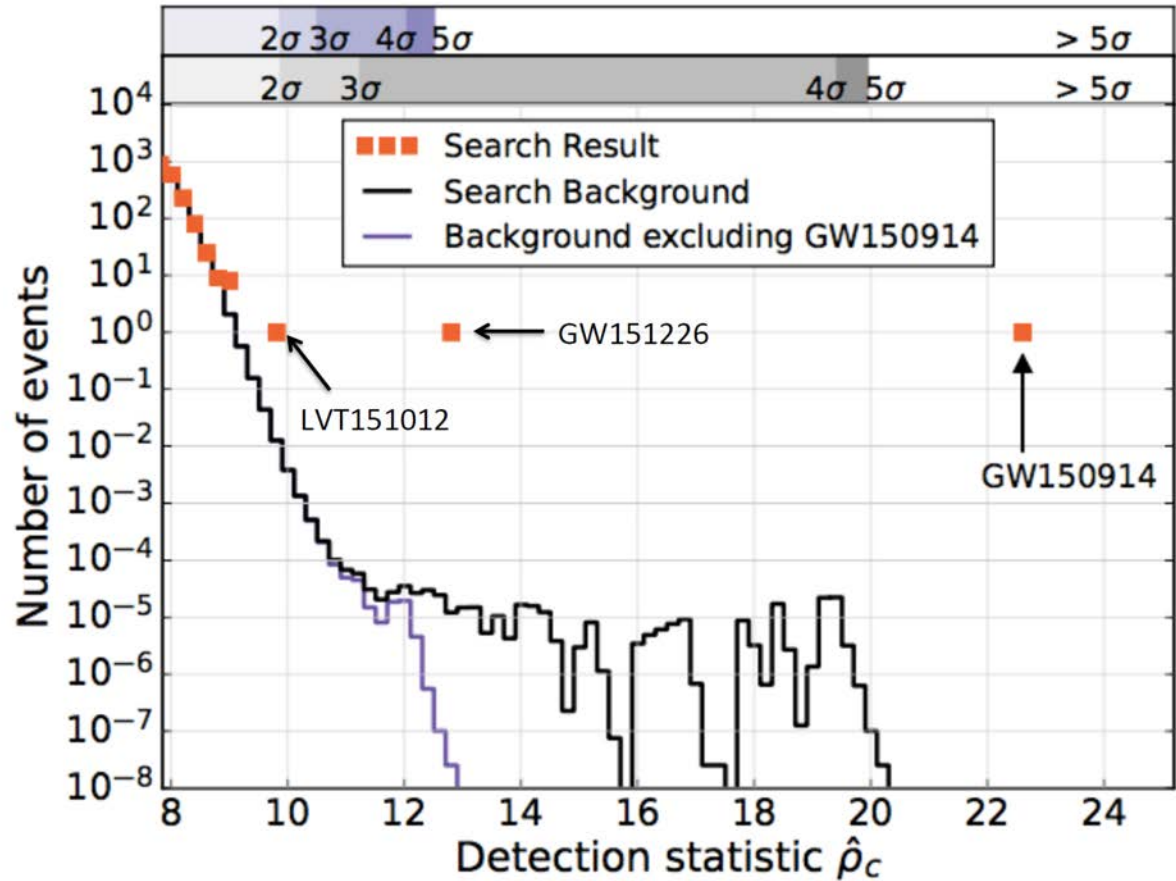
Gianluca Gemme

INTRODUZIONE

AN INTERESTING YEAR...



September 14, 2015
CONFIRMED



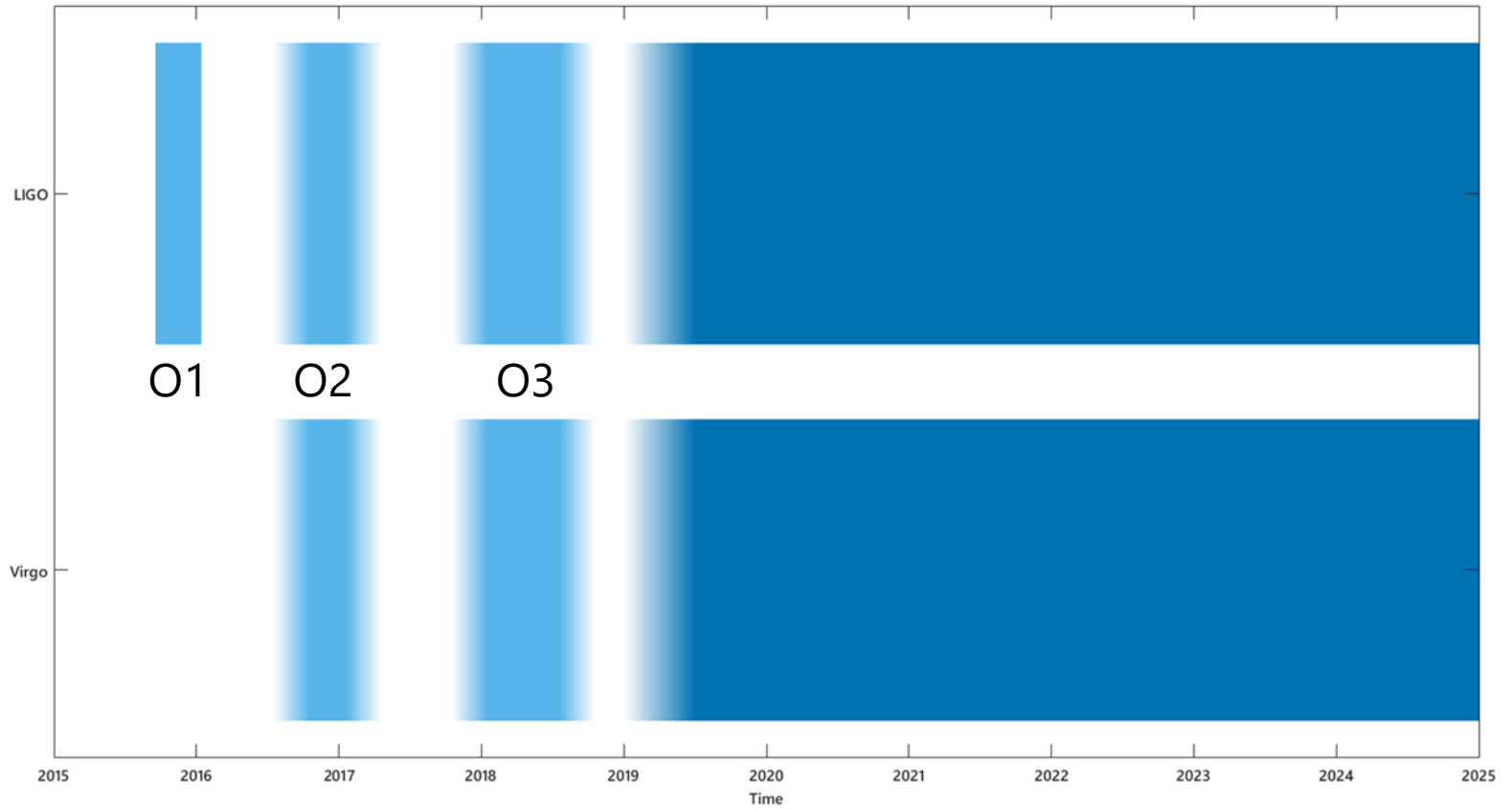
September 2015

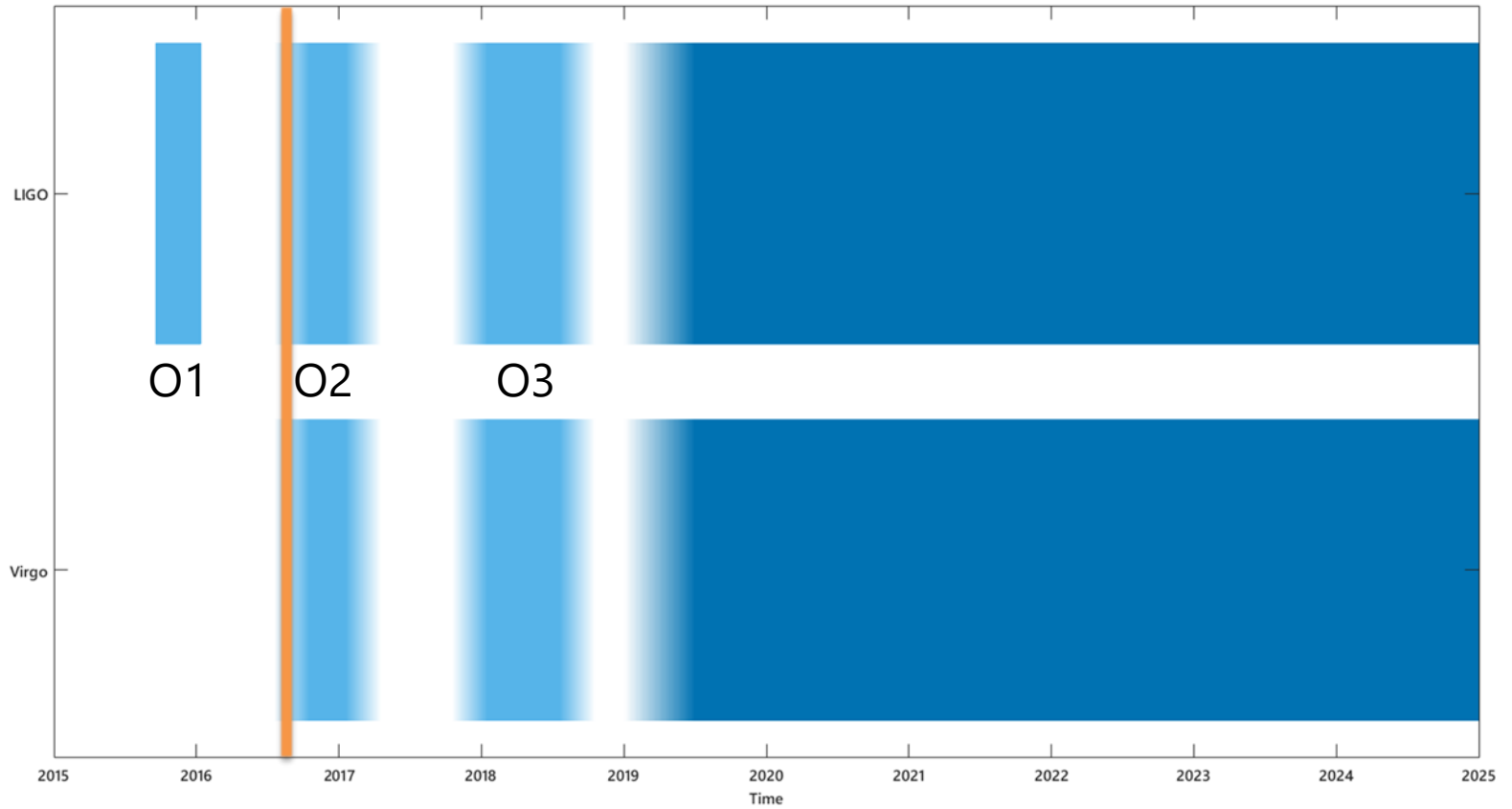
October 2015

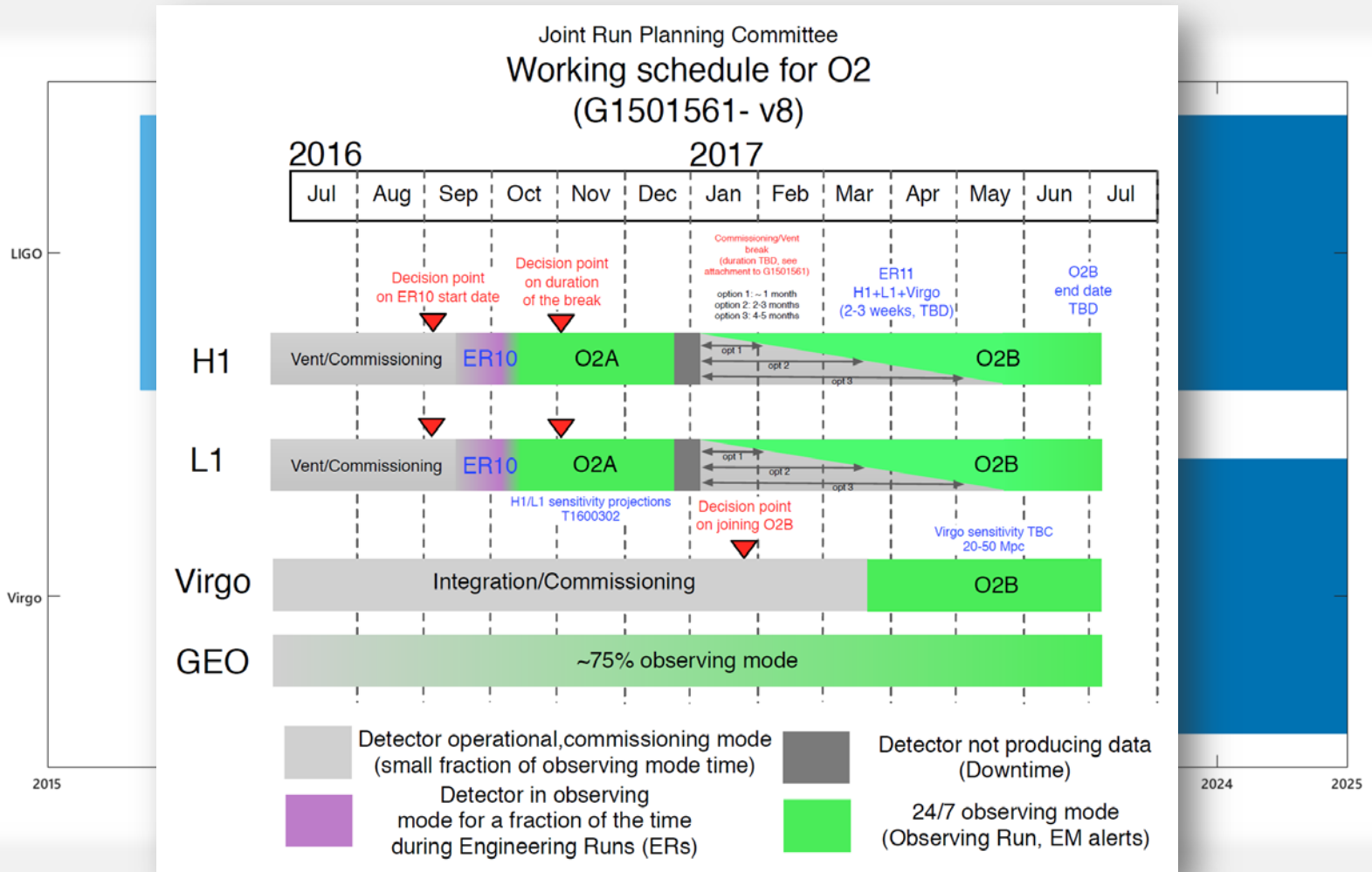
November 2015

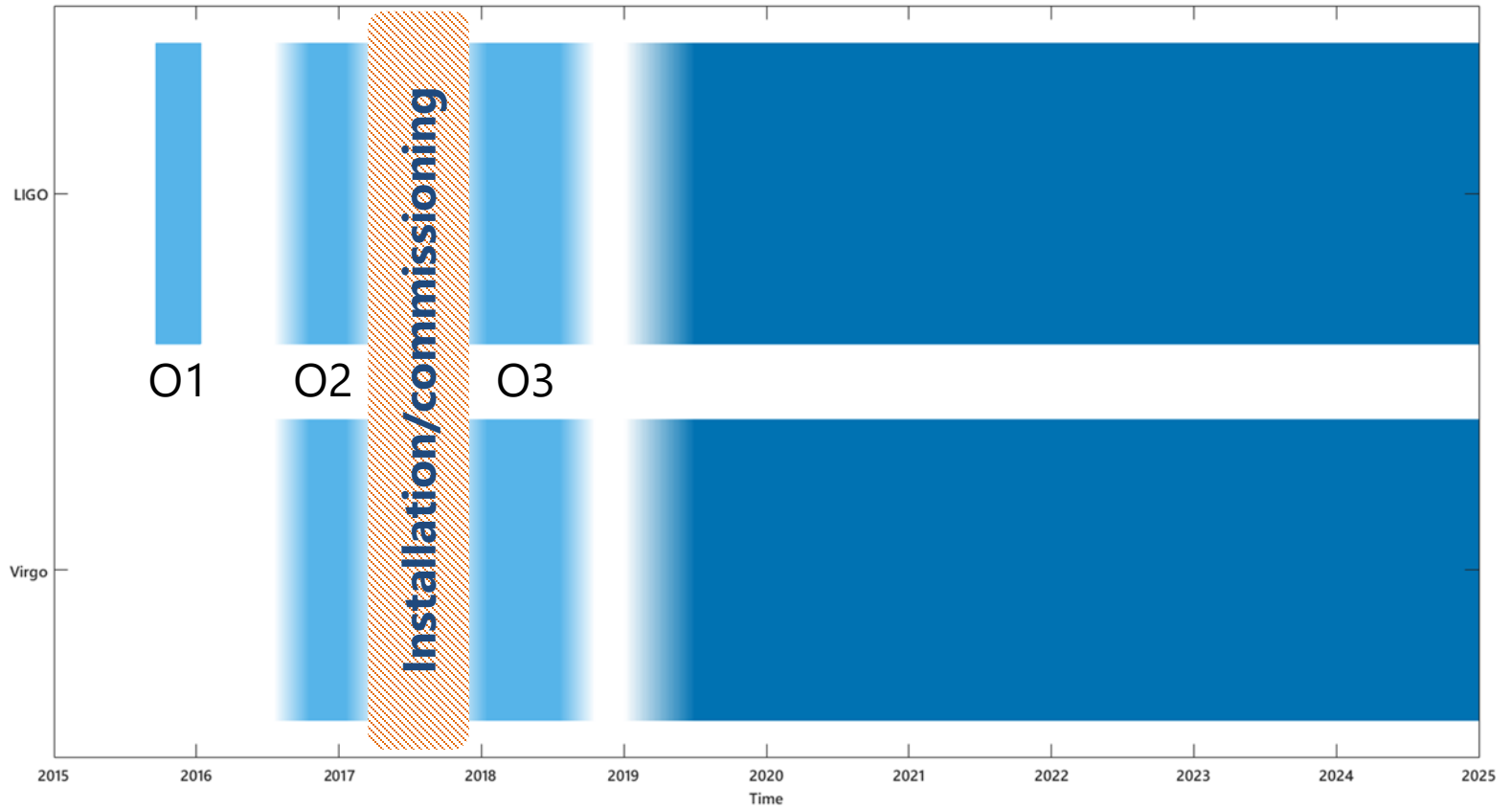
December 2015

January 2016









❑ ADVANCED VIRGO

- Join O2 (four months in 2017)
- After O2: installation of the SR mirror; high power laser

❑ SQUEEZING

- Integration of the two benches (one bench seismically isolated and in vacuum)
- Installation of the squeezer in the detection area before O3

❑ MONOLITHIC SUSPENSIONS

- Pinpoint the reason of the failures
- Install monolithic payloads before O3



❑ BLADES

- 13 + 1 broken blades – hydrogen embrittlement of the maraging steel
- 131/260 substituted – 120 extra blades built
- Risk mitigation strategies for the long term operation (detector stability-reliability)

❑ R&D

- the results obtained by aLIGO came after an investment, in two decades, of approximately 60 M\$ for R&D, that allowed the development of crucial technologies
- If we want to maintain the Italian leadership in this field, an adequate and constant support to R&D must be granted
- This is particularly important in this period of time and international framework: after the first detections, detailed plans for the development of enhanced 2nd generation, and 3rd generation detectors are being intensively prepared in the USA, in Japan and in India

Time Scales

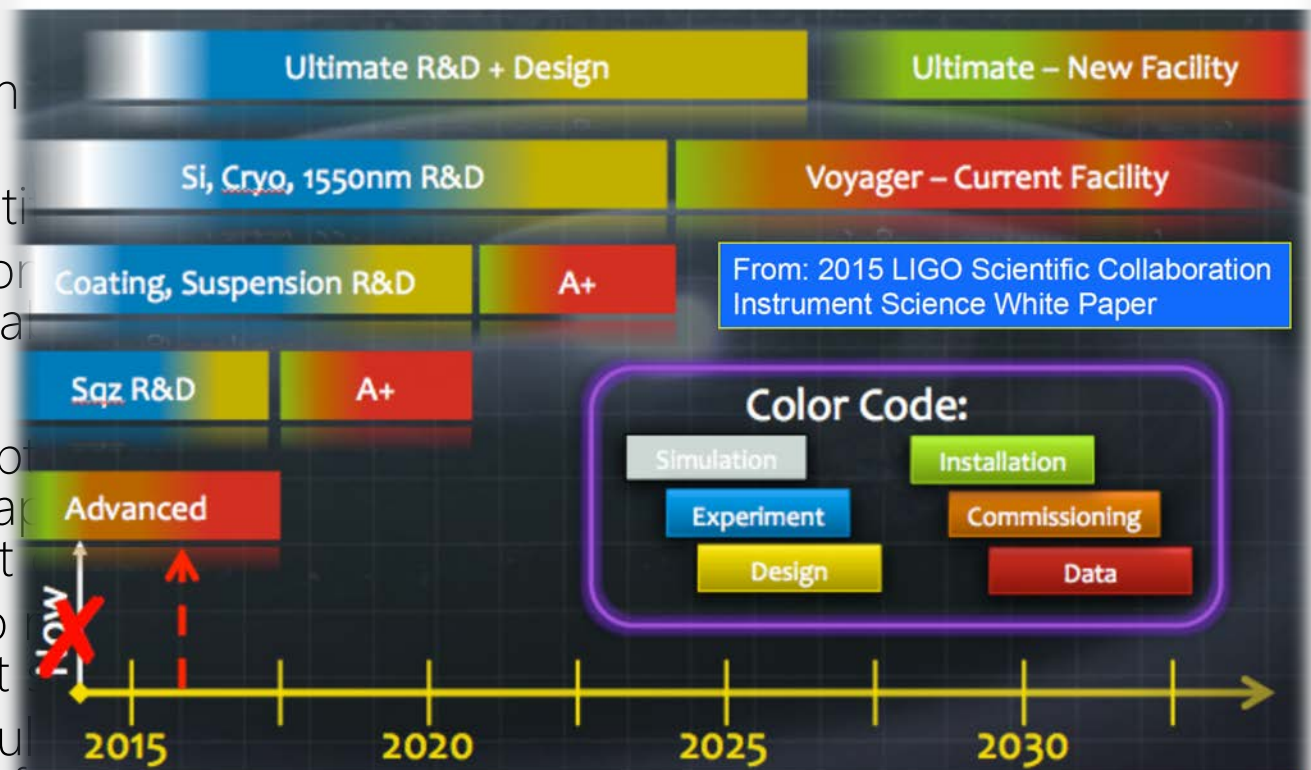
❑ BLADES

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❑ R&D

- the results ob decades, of a development
- If we want to and constant
- This is particu

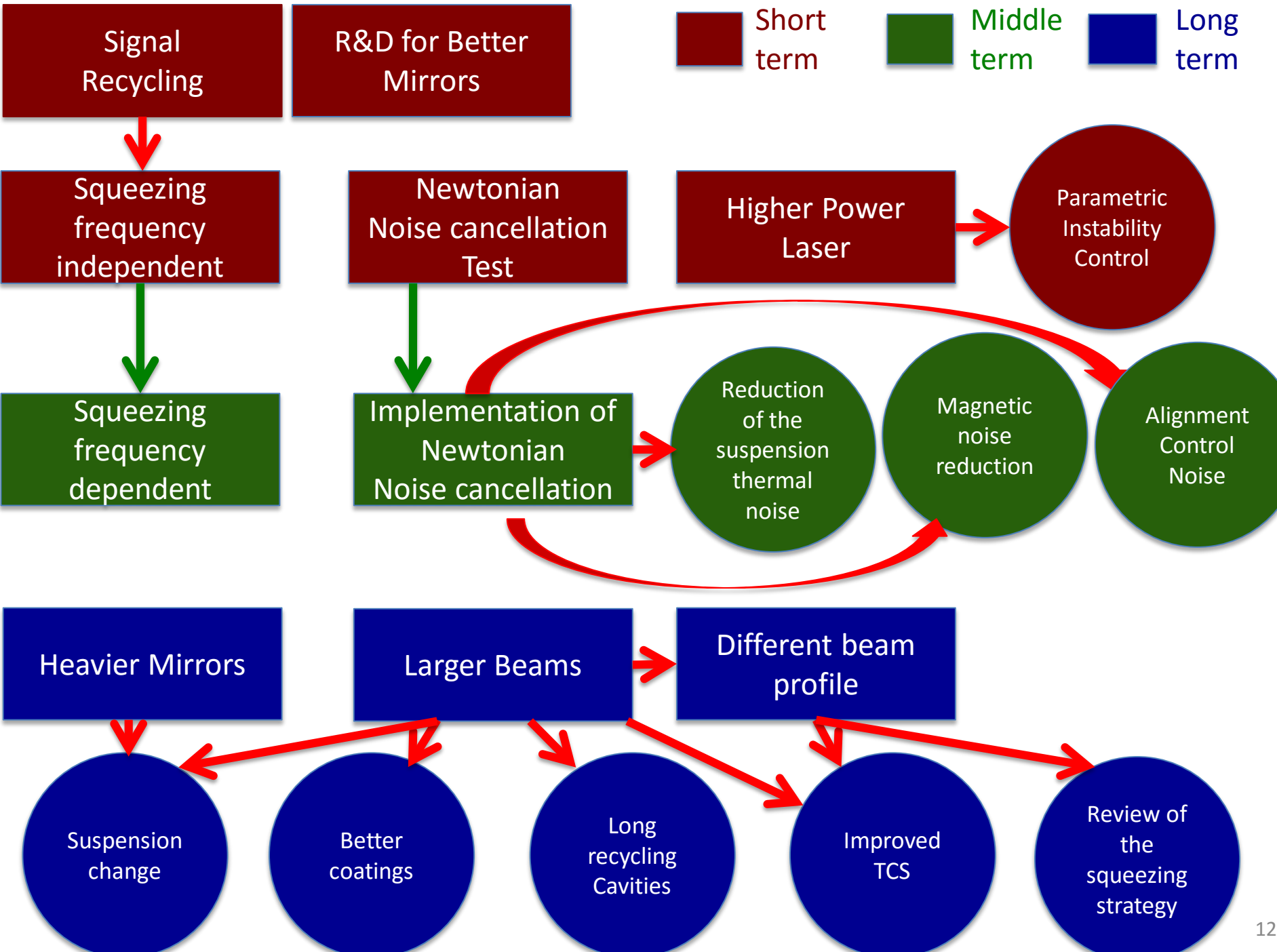
framework: after LIGO first detections, advanced plans for the development of enhanced 2nd generation, and 3rd generation detectors are being intensively prepared in the USA, in Japan and in India



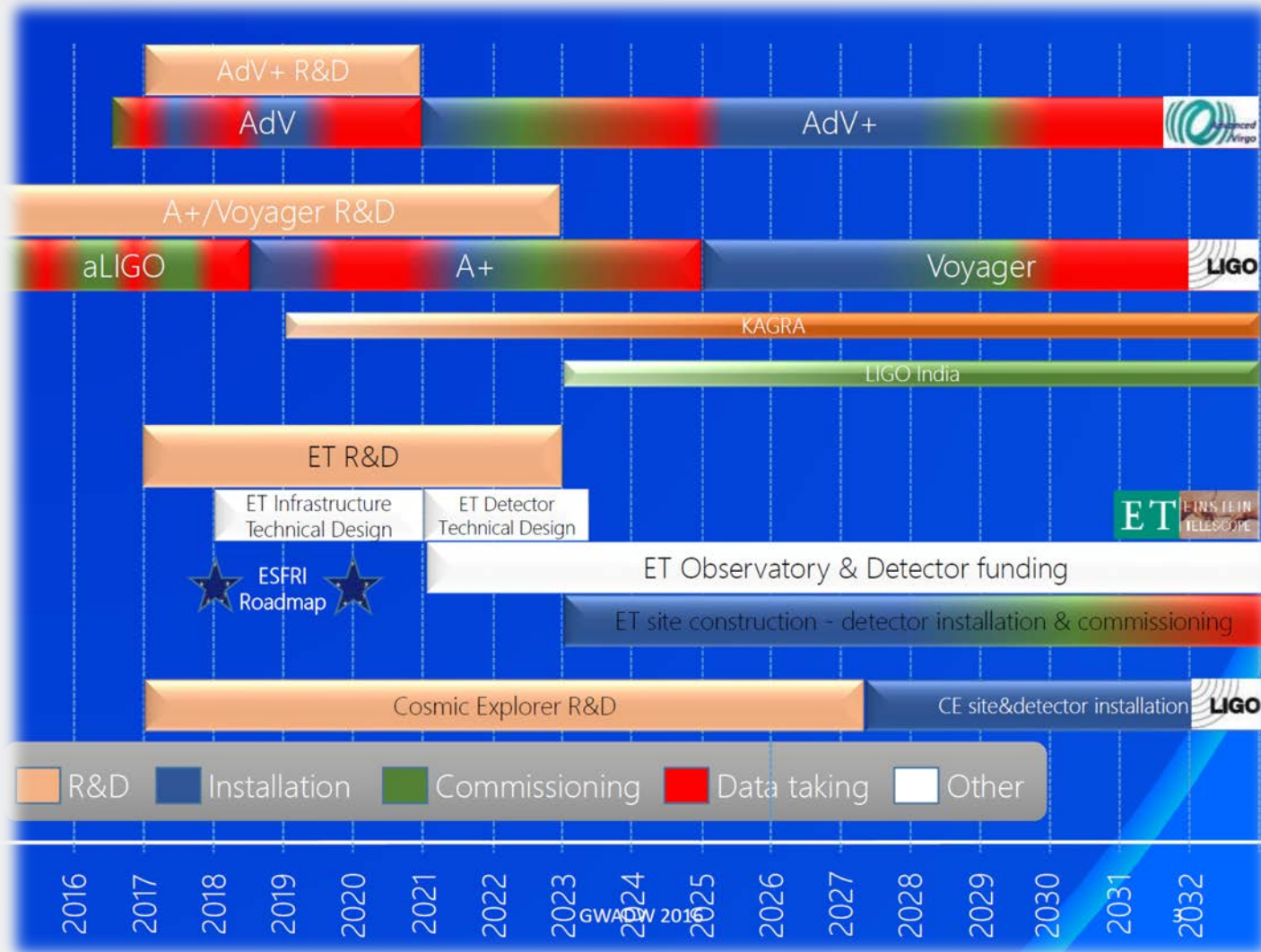
'VISION' DOCUMENT

- ❑ The Virgo collaboration prepared a “vision” document, whose goal is to trace a first path of the evolution of Advanced Virgo toward the third generation of detectors
- ❑ Actions coherent with our top priority: maximize the scientific output of AdV (max data taking – min downtime)
 - Phase 1 (2017) – short term actions
 - Phase 2 (2018-2021) - reaching the nominal sensitivity of AdV
 - Phase 3 (beyond 2021) – reaching the limits of the existing infrastructure – towards a new infrastructure

Short term Middle term Long term



TOWARDS THE 3rd GENERATION



Meeting con i referees - Preventivi 2017

chaired by Gianluca Gemme (GE)

Thursday, 8 September 2016 from **09:45** to **16:45** (Europe/Rome)
at **EGO, Cascina (Council Room)**

Thursday, 8 September 2016

- 09:45 - 09:55 **Introduzione 10'**
Speaker: Gianluca Gemme (GE)
- 10:00 - 10:20 **Stato di Advanced Virgo 20'**
Speaker: Giovanni Losurdo (FI)
- 10:30 - 10:50 **Maraging blades: stato e programma attività 2017 20'**
Speaker: Giancarlo Cella (PI)
- 11:00 - 11:20 **Sospensioni monolitiche: stato e programma attività 2017 20'**
Speaker: Vocca Helios (Università di Perugia e INFN Perugia)
- 11:30 - 11:50 **Coffee Break**
- 11:50 - 12:10 **Squeezing 20'**
Speaker: Dr. Jean-Pierre Zendri (INFN)
- 12:15 - 12:35 **Data analysis 20'**
Speaker: Giovanni Andrea Prodi (TIFP)
- 12:40 - 13:00 **Computing 20'**
Speaker: Michele Punturo (PG)
- 13:00 - 14:00 **Pranzo**
- 14:00 - 15:30 **Interventi dei responsabili locali 1h30'**
Speakers: Andrea Vicerè (FI), Fiodor Sorrentino (GE), Fabio Garufi (NA), Livia Conti (PD), Helios Vocca (PG), Giancarlo Cella (PI), Ettore Majorana (ROMA1), Viviana Fafone (ROMA2), Giovanni Andrea Prodi (TIFP)
- 15:30 - 15:40 **Conclusione e sintesi delle richieste finanziarie 10'**
Speaker: Gianluca Gemme (GE)
- 15:45 - 16:45 **Riunione a porte chiuse dei referees 1h0'**