



MMO®
SOLUTIONS
IVIC

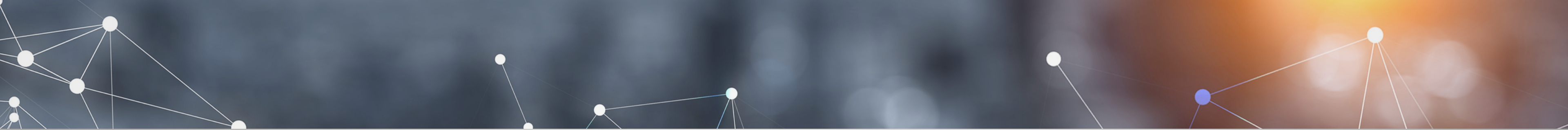
**YOUR HIGH TECH PARTNER
IN REMOTE MONITORING AND CONTROL**

DATA TRANSMISSION IS OUR MASTERY



DIGITALISATION ON FIELD

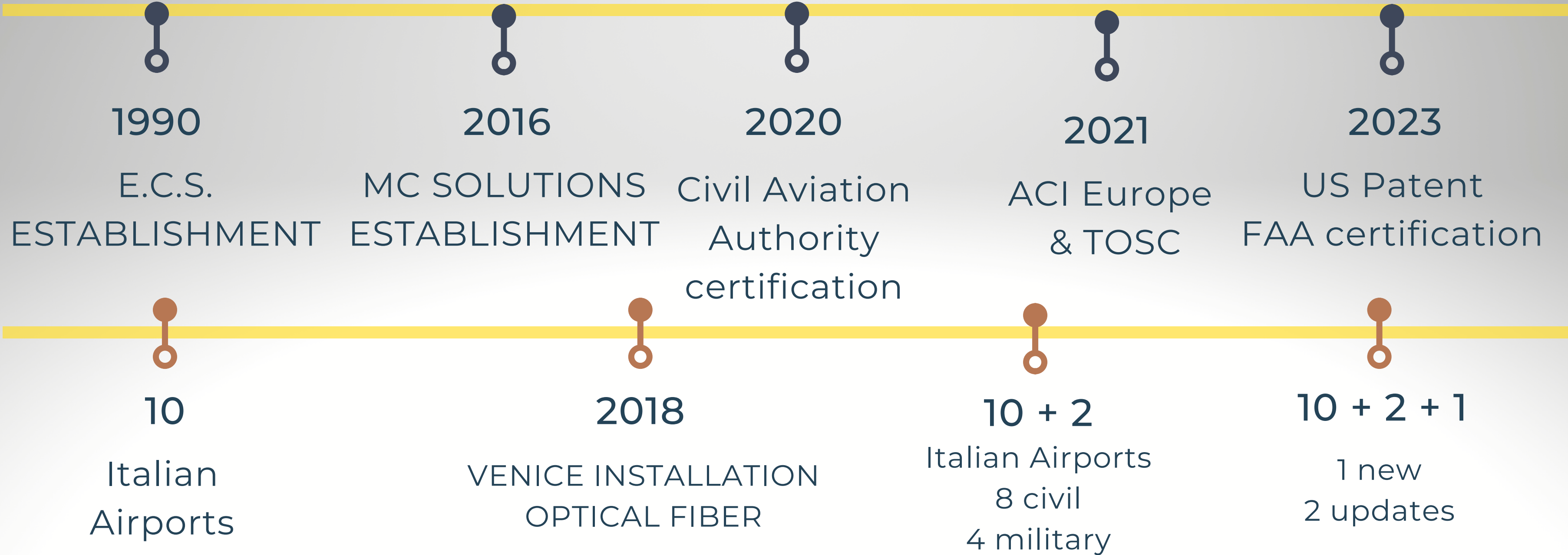
DR. DEBORA CAZZANI
Tech. Dir. DANIELE GIRASOLE



THE TIME LINE

COMPANY

REFERENCES



AIRPORT REFERENCES

TORINO CASELLE - CAT III B + HELIPORT

Monitoring by MC

ALCMS integrated with another provider

A. CANOVA - TREVISO - CAT II B

ALCMS and Monitoring by MC

Lights and CCR by ADB Safegate (J-Bus)

MARCO POLO - VENEZIA - CAT III B

ALCMS and Monitoring by MC

CCR by ADB Safegate + OCEM multiwire

AOSTA + HELIPORT

AGL monitoring by MC

CCR by ADB Safegate

BRINDISI

ALCMS by MC

CCR by ADB Safegate

COMISO - STOP BAR & LEAD ON

ALCMS and Monitoring by MC

CCR by ADB Safegate

CUNEO - STOP BAR & LEAD ON

ALCMS by MC

CCR by ADB Safegate

MILITARY - S. EGIDIO PERUGIA - STOP BAR &

LEAD ON

ALCMS by MC | CCR by ADB Safegate

PESCARA - STOP BAR & LEAD ON

ALCMS by MC

CCR by ADB Safegate

MILITARY - PIACENZA

ALCMS by MC

CCR by ADB Safegate

MILITARE - G. FARINA - DECIMOMANNU

ALCMS by MC

CCR by OCEM LonWorks com. protocol

MILITARE - 51° Stormo Aeronautica - Istrana

ALCMS by MC

CCR by OCEM LonWorks com. protocol

REGGIO CALABRIA

Curved approach + ALCMS



ALCMS & A-SMGCS: SAFE | EFFICIENT OPS

PC LOGIC

CERTIFIED FAA L-890

FLEXIBLE | SCALABLE

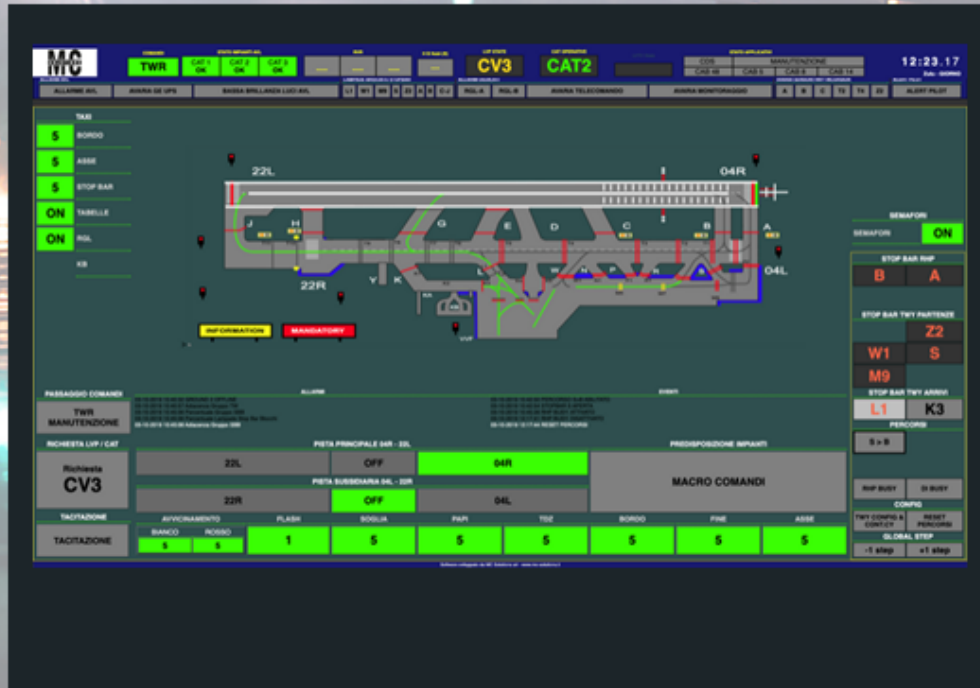
REDUNDANT IN EACH
HW & SW COMPONENT



MC[®]
SOLUTIONS
MC YOUR HIGH TECH PARTNER
IN REMOTE MONITORING & CONTROL

INTEGRABLE

MIA System: modularity



AGL REMOTE CONTROL



PATENTED

OPTICAL FIBER MONITORING



RUNWAY INCURSION

BENEFITS & ADVANTAGES

CDU: RWY INCURSION PREVENTION

MAINTENANCE FREE

NO PERIODICAL CALIBRATION

NO FREQUENCY INTERFERENCE

EASY INSTALLATION | ALCMS INTEGRATED

REDUNDANT = SAFE

CERTIFIED

LOW CONSUMPTION

ENVIRONMENTAL =

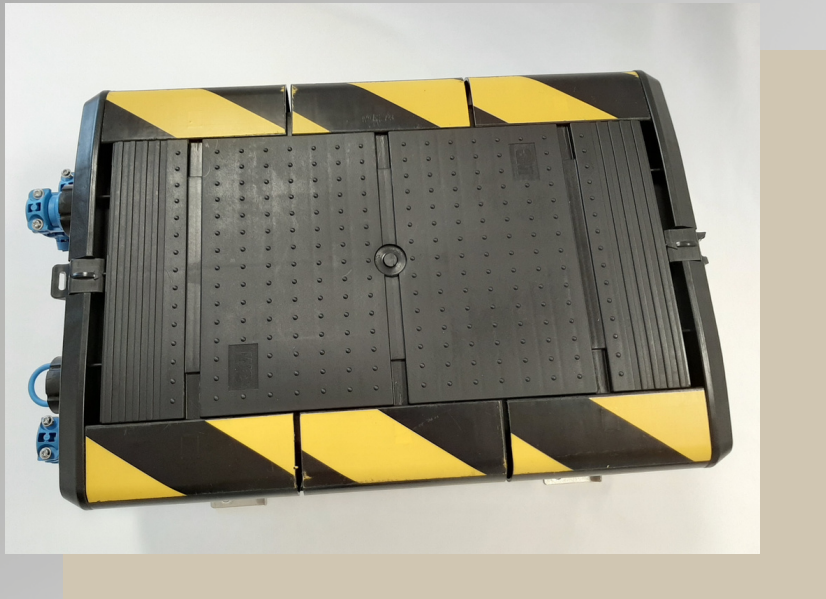
— FUEL CONSUMPTION

— CO2

— NOISE



RUNWAY INCURSION



Optical Fiber Com

- o Real Time + High Data volume
- o Immune to interference

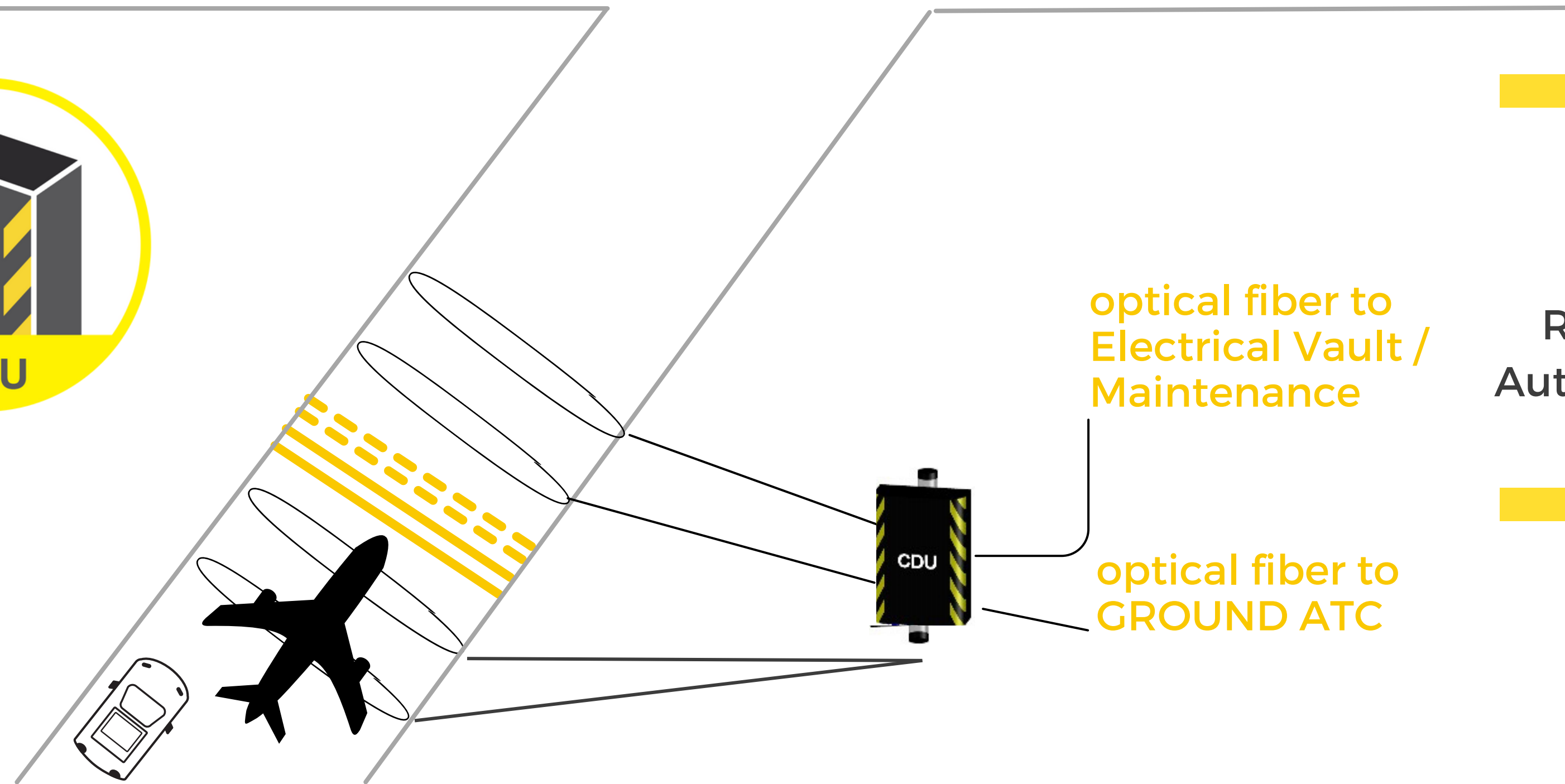
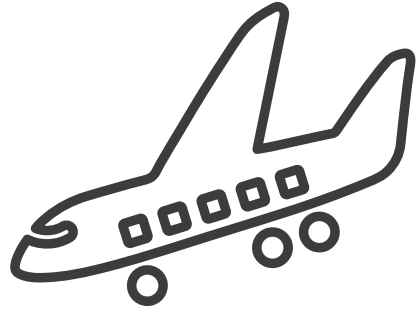
Fault Tolerance

- o Redundant Communication
- o Remote update

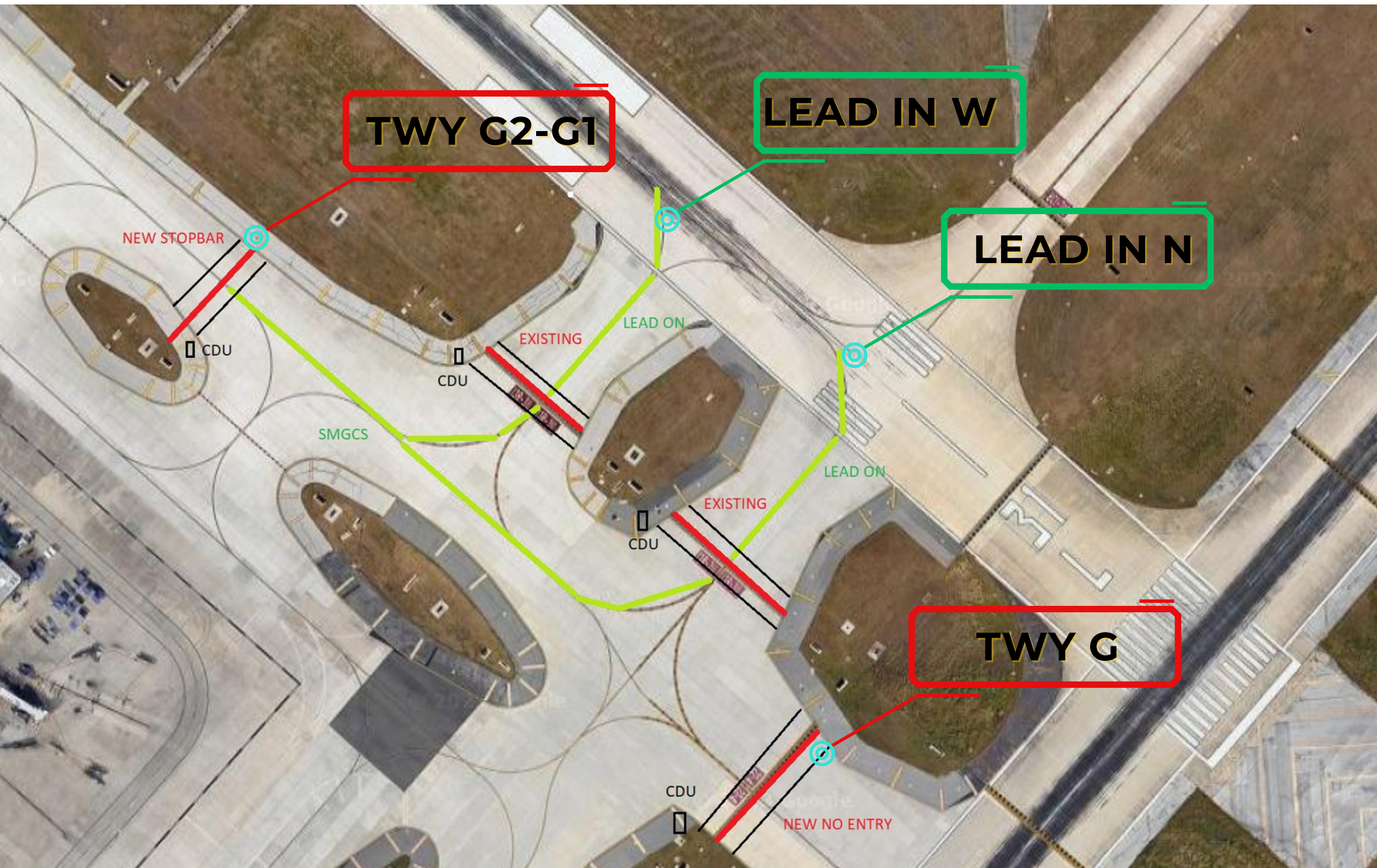
Low maintenance + Low consumption

- o Low consumption: 15W each
- o Single calibration @ installation
- o IP67 + temperature tested





- Speed
- Direction
- Any Vehicle
- Real Time comm
- Automatic Lead-on
- Route selection



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- Direction
- Any Vehicle
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RUNWAY INCURSION



CDU

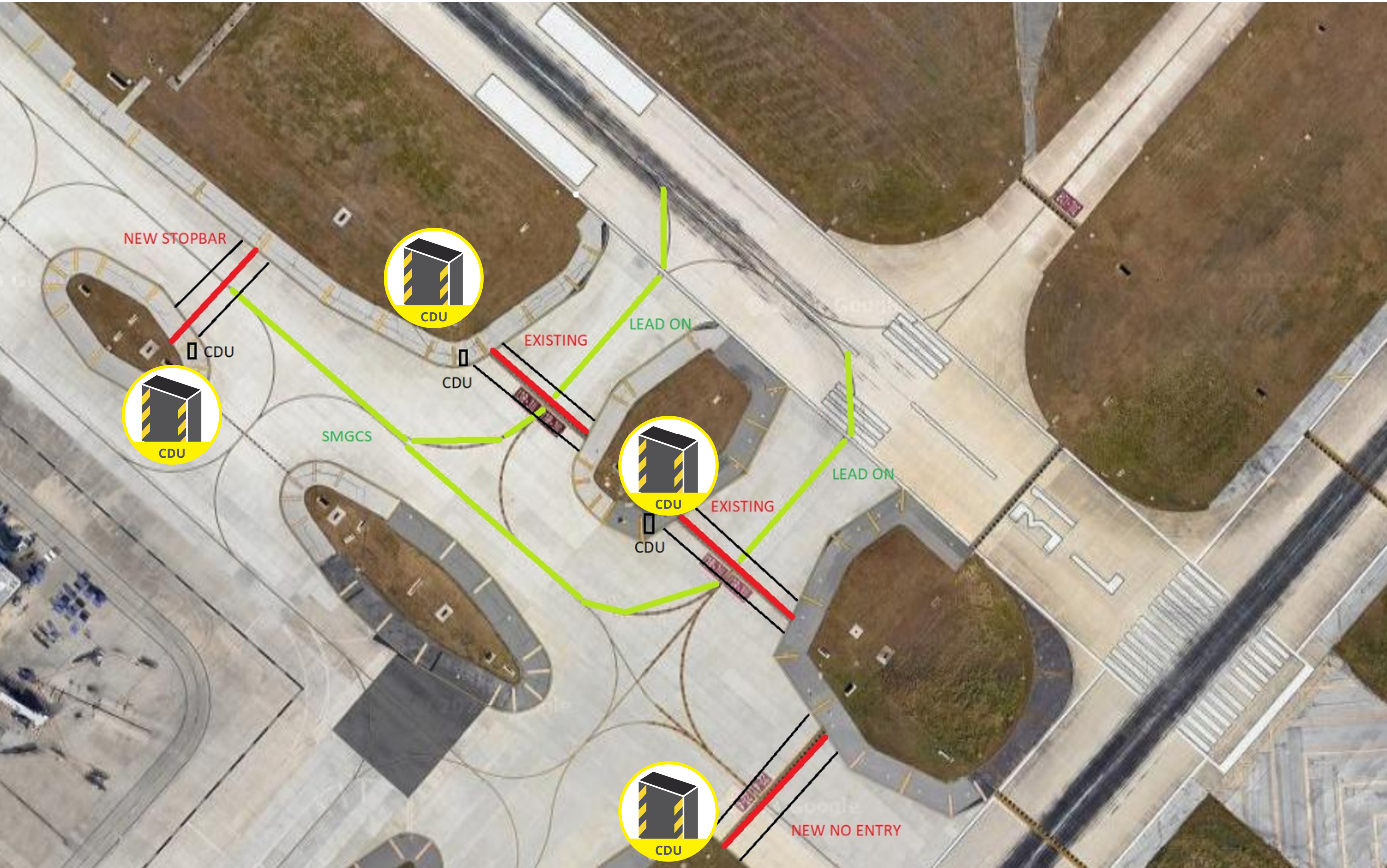


the Installation

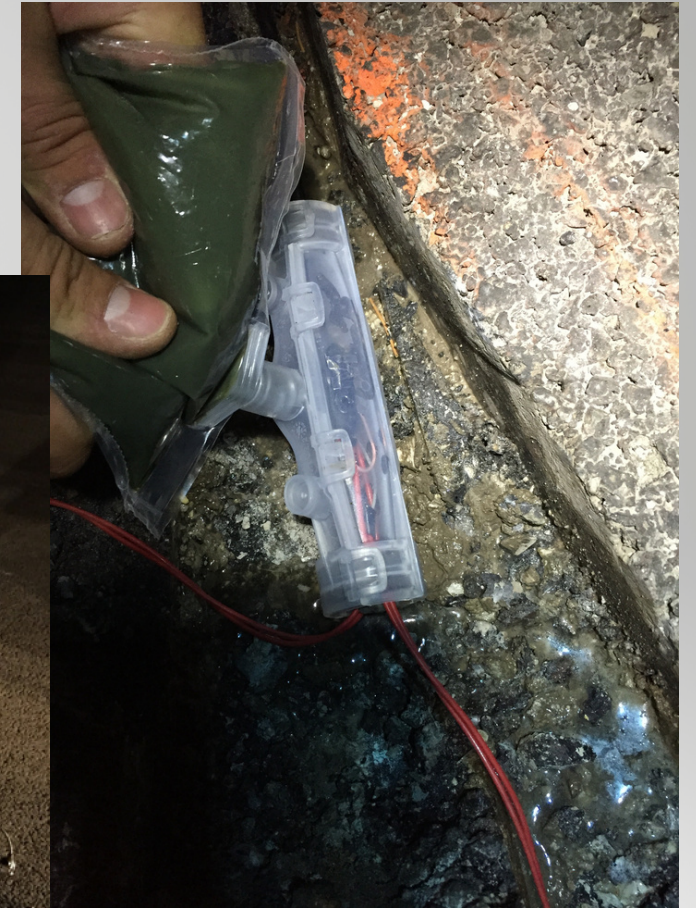
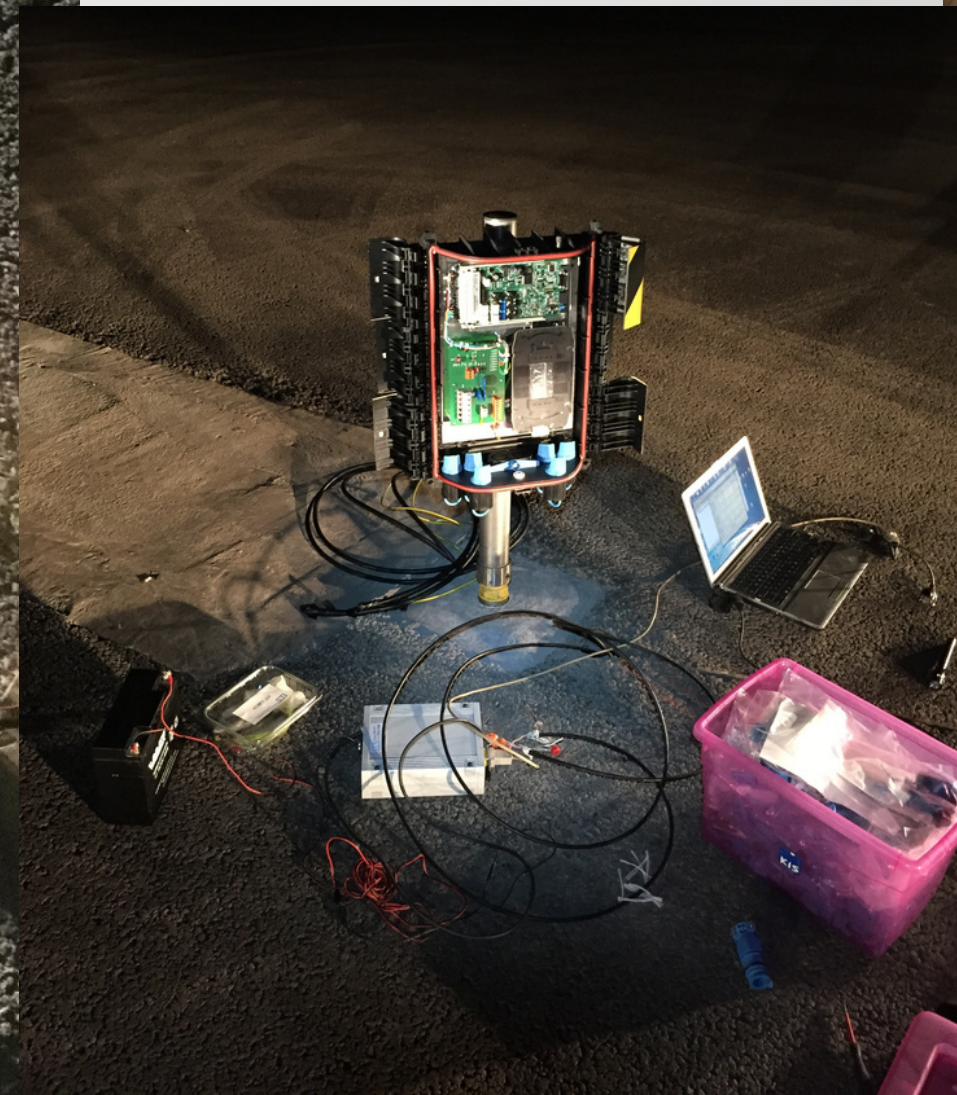


**independent
of circuit layout**

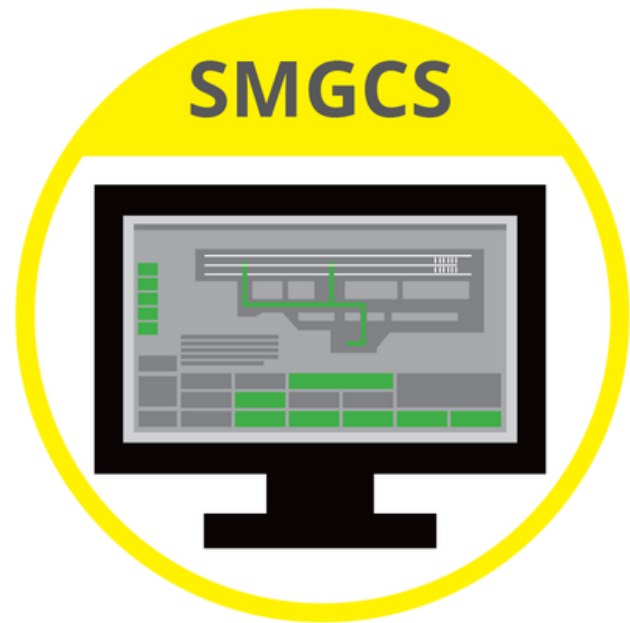
1 cut | 4 each CDU:
large 0,5 – 0,7" large
1,34" depth
FAT
15 days
connection&upload
SAT



CDU INSTALLATION



the Integration the Evolution

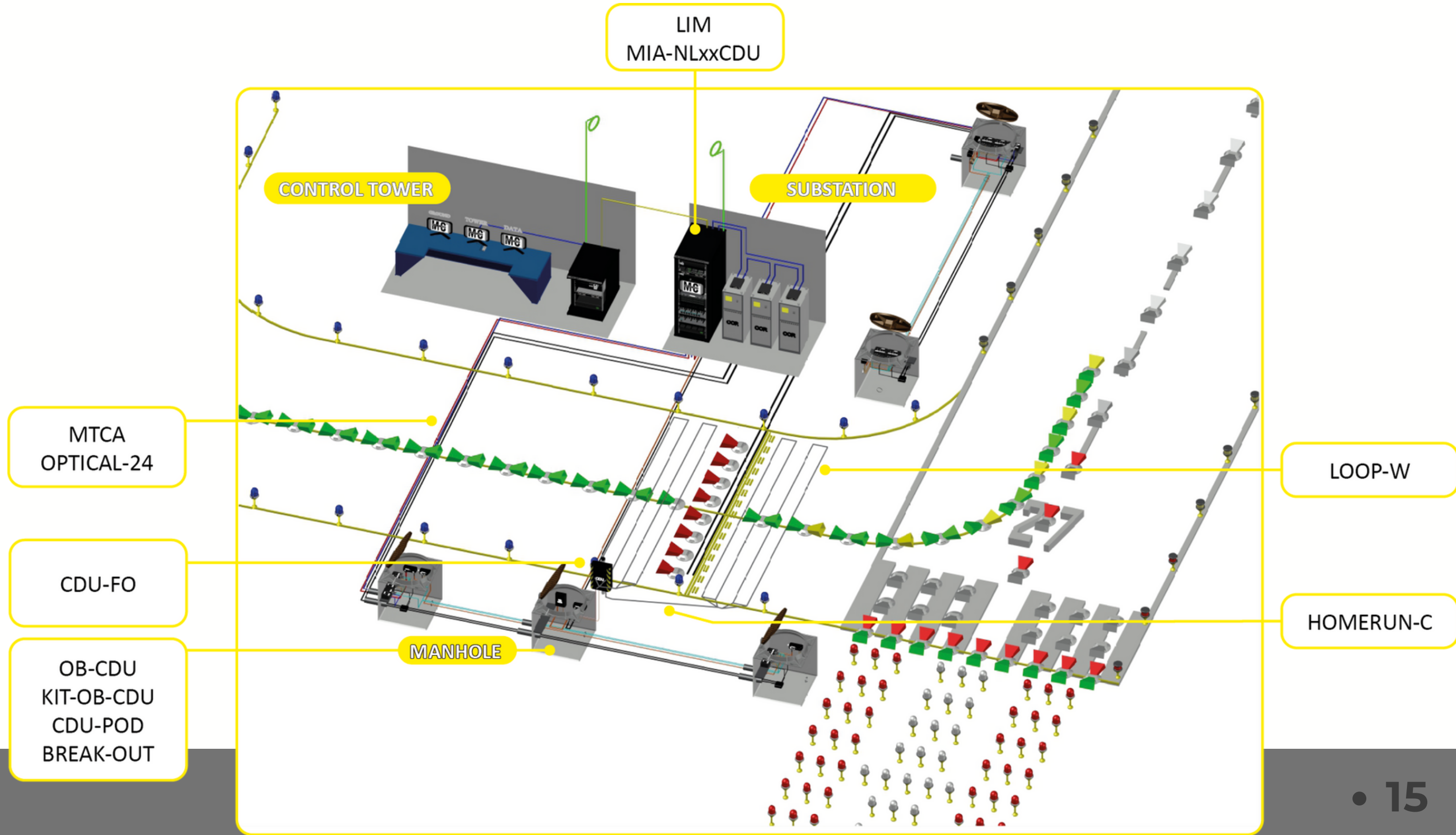


Ground Radar
Runway Visibility Range RVR
Wind Cone
PAPI, REIL, Lighted Signs, RGL, Flood
lights, Beacon, Flash
UPS, GE



MIA System Architecture

The CDU: STB and Lead In



TWR

MC SOLUTIONS

COMANDI
TWR

STATO IMPIANTI AVL
CAT 1 OK

CAT 2 OK

CAT 3 OK

LVP STATE
CV3

CAT OPERATIVE
CAT2

STATO APPLICATIVI

12:23.17

ALLARMI AVL

LAMPADINE SBUCCIALI STOPBAR

ALLARMI ULUCIATI

STATO APPLICATIVI

ALERT PILOT

ALLARME AVL

AVARIA GE UPS

BASSA BRILLANZA LUCI AVL

L1 W1 M9 S Z2 A B C-J

RGL-A RGL-B

AVARIA TELECOMANDO

AVARIA MONITORAGGIO

A B C T2 T4 Z2

TAXI

SEMAFORI

5

BORDO

5

ASSE

5

STOP BAR

ON

TABELLE

ON

RGL

KB

ON

INFORMATION

MANDATORY

PASSAGGIO COMANDI

ALLARMI

EVENTI

TWR
MANUTENZIONE

03-10-2019 10:40:32 GROUND 2 OFFLINE

03-10-2019 10:40:57 Adiacenza Gruppo TW

03-10-2019 10:45:06 Percentuale Gruppo SBB

03-10-2019 10:45:06 Percentuale Lampade Stop Bar Blocchi

03-10-2019 10:45:06 Adiacenza Gruppo SBB

03-10-2019 10:42:50 PERCORSO S-B ABILITATO

03-10-2019 10:42:54 STOPBAR S APERTA

03-10-2019 10:45:26 RHP BUSY: ATTIVATO

03-10-2019 12:17:41 RHP BUSY: DISATTIVATO

03-10-2019 12:17:44 RESET PERCORSI

RICHIESTA LVP / CAT

PISTA PRINCIPALE 04R - 22L

PREDISPOSIZIONE IMPIANTI

Richiesta
CV3

22L

OFF

04R

MACRO COMANDI

TACITAZIONE

PISTA SUSSIDIARIA 04L - 22R

TACITAZIONE

22R

OFF

04L

TACITAZIONE

AVVICINAMENTO

FLASH

SOGLIA

PAPI

TDZ

BORDO

FINE

ASSE

BIANCO

ROSSO

1

5

5

5

5

5

5

STOP BAR RHP

STOP BAR TWY PARTENZE

STOP BAR TWY ARRIVI

PERCORSI

B

A

Z2

S

L1

K3

S > B

RHP BUSY

DI BUSY

CONFIG

TWY CONFIG & CONT.CY

RESET PERCORSI

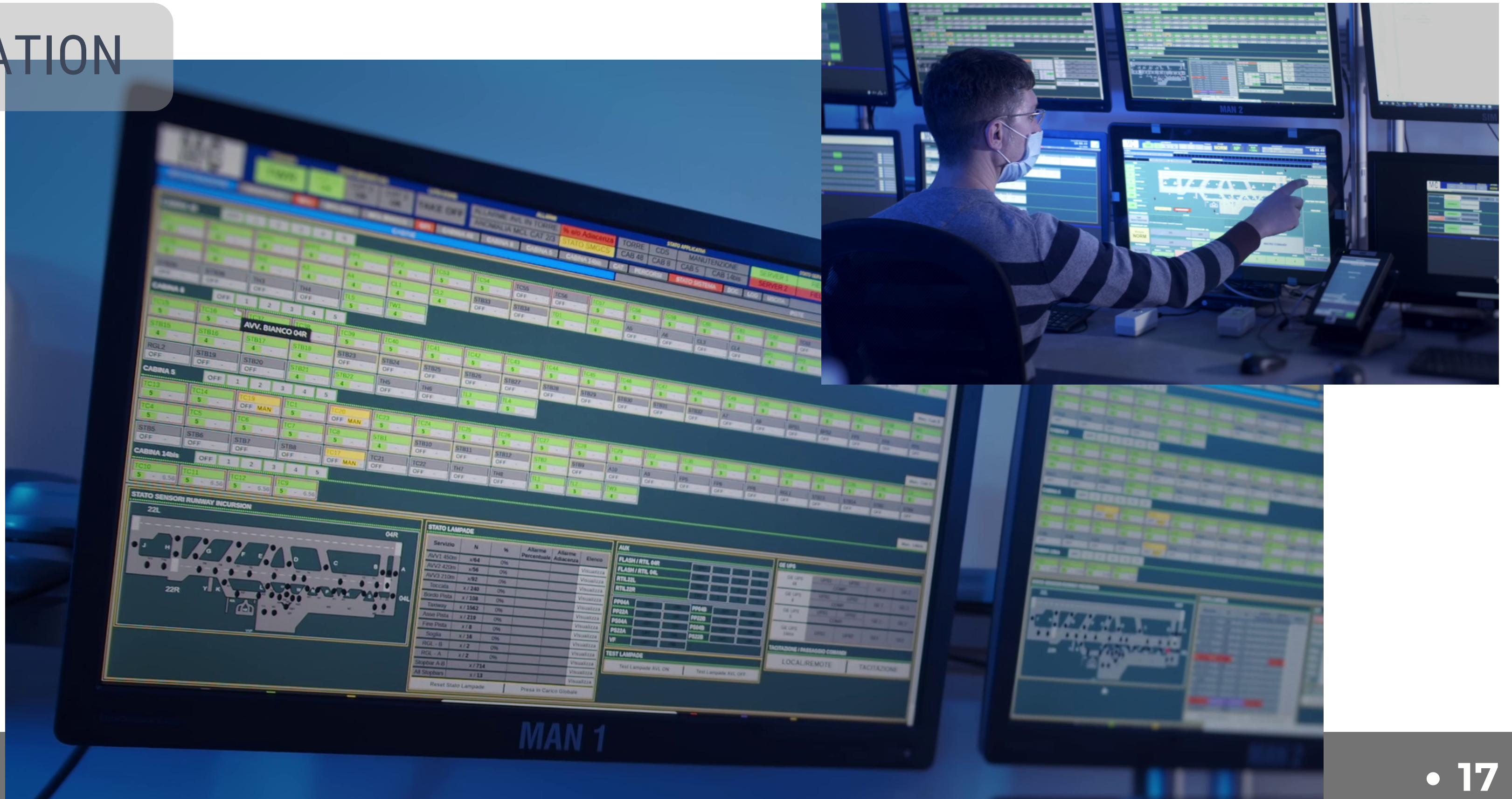
GLOBAL STEP

-1 step

+1 step

Software sviluppato da MC Solutions srl - www.mc-solutions.it

SIMULATION



MCACG

US REPRESENTATIVE AGENT
MARCOS COSTILLA
+18172414823

**INNOVATIVE IF...
SHARED AND FEASIBLE**

**INNOVATIVE DESIGN
&
DIGITALISATION ON FIELD**

Thank You

MC[®]
SOLUTIONS
MC