လျှပ်စစ်ဆိုင်ရာလုပ်ငန်းအတွေ့အကြုံ

Experience
Creativity and Innovation

မြန်မာနိုင်ငံအင်ဂျင်နီယာအသင်းချုပ်

၁၉ - ၁၁ -၂၀၂၂

Experience

U Shwe

BE (Electrical Power)
1977 (November)

Work Experience

1) Electrical Base Workshop Construction Corporation **3 Years**
Electrical equipment repairing and testing (R&I Section)
Myaungmya Jute mill Project

Creation Dry Type Welding Transformer

2) Glass Factory Thanlyin Ceramic Industry Corporation, Ministry (1) about 20 Years

Household Glass factory construction , installation, production, maintenance,

an, Bottole glass factor

Creation Different sizes and different kinds of Glass cup.

3) Asia World Company Limited Still in service 23 Years

(i) Asia World Port Terminal Construction, Operation, Maintenance 5 Years

(Electrical, Harbour Mobile Cranes, Container Handling equipment) 2001, May1 open Container handling

(ii)Yangon International Airport, Terminal 2 Renovation & Extention Project, M&E Systems Installation, Operation, Maintenance (Electrical Systems, ELV Systems, Airport Specialist Systems)	**5 Years** **2007, May 25 open**

(iii) Naypyitaw International Airport construction Project
Installation, Operation, Maintenance (Electrical Systems, ELV Systems, Airport Specialist Systems, Airfield Lighting control system)

5 Years

2011, Dec 19 open

(iv) Yangon International Airport Development Project

Installation, (Electrical Systems, ELV Systems, Airport Specialist Systems, Airfield Lighting control system)

From 2014
Up to Now

Terminal 1 Construction

2016, March 12 Open

Asia World Company Limited Experiences Continues
Main Projects

(v) Terminal 3 Construction 2016, Dec 5 Open

(vi)Terminal 2 Renovation & Extension

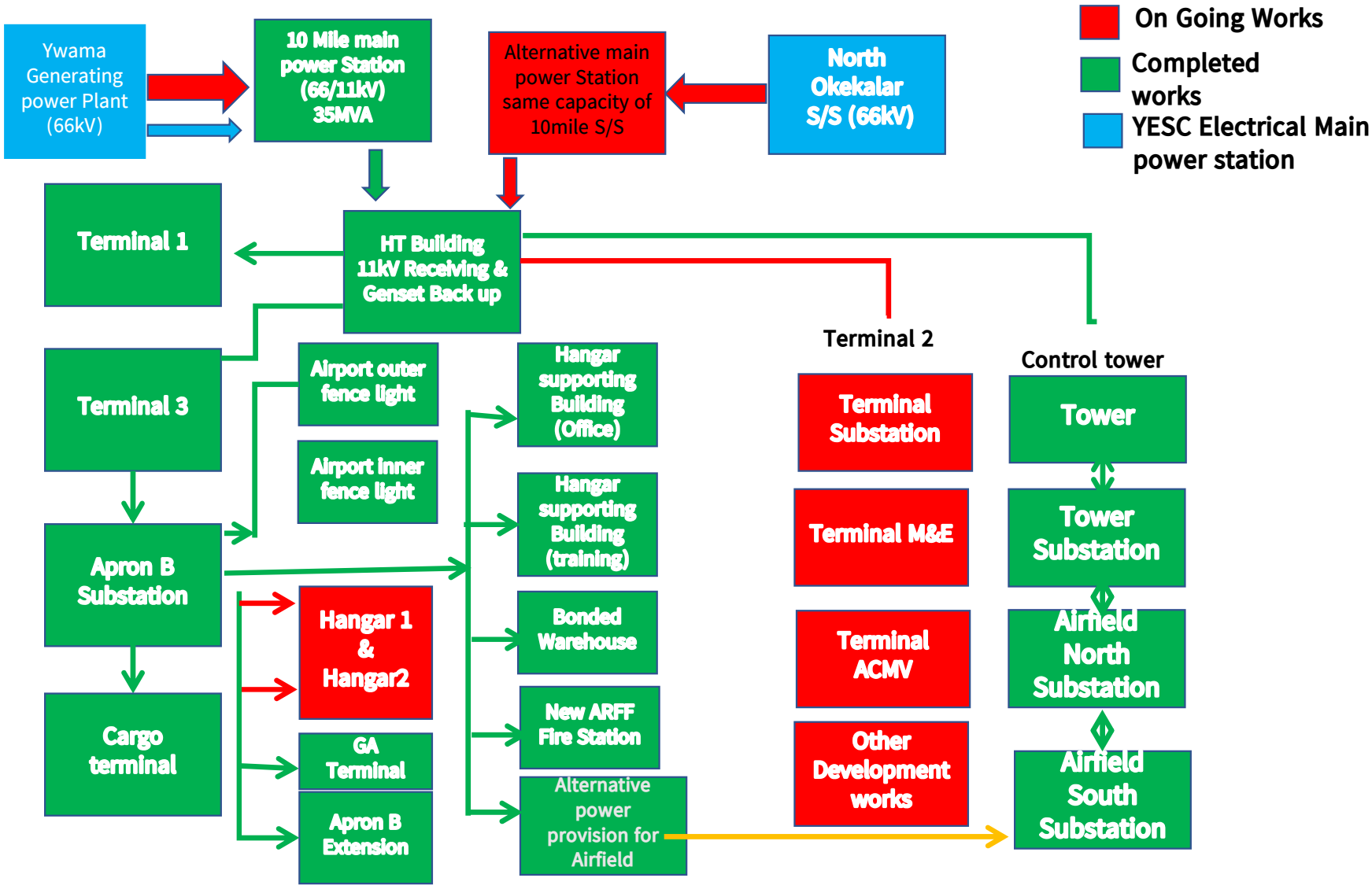
Target completion date 2023

Work Experience Total 44 years

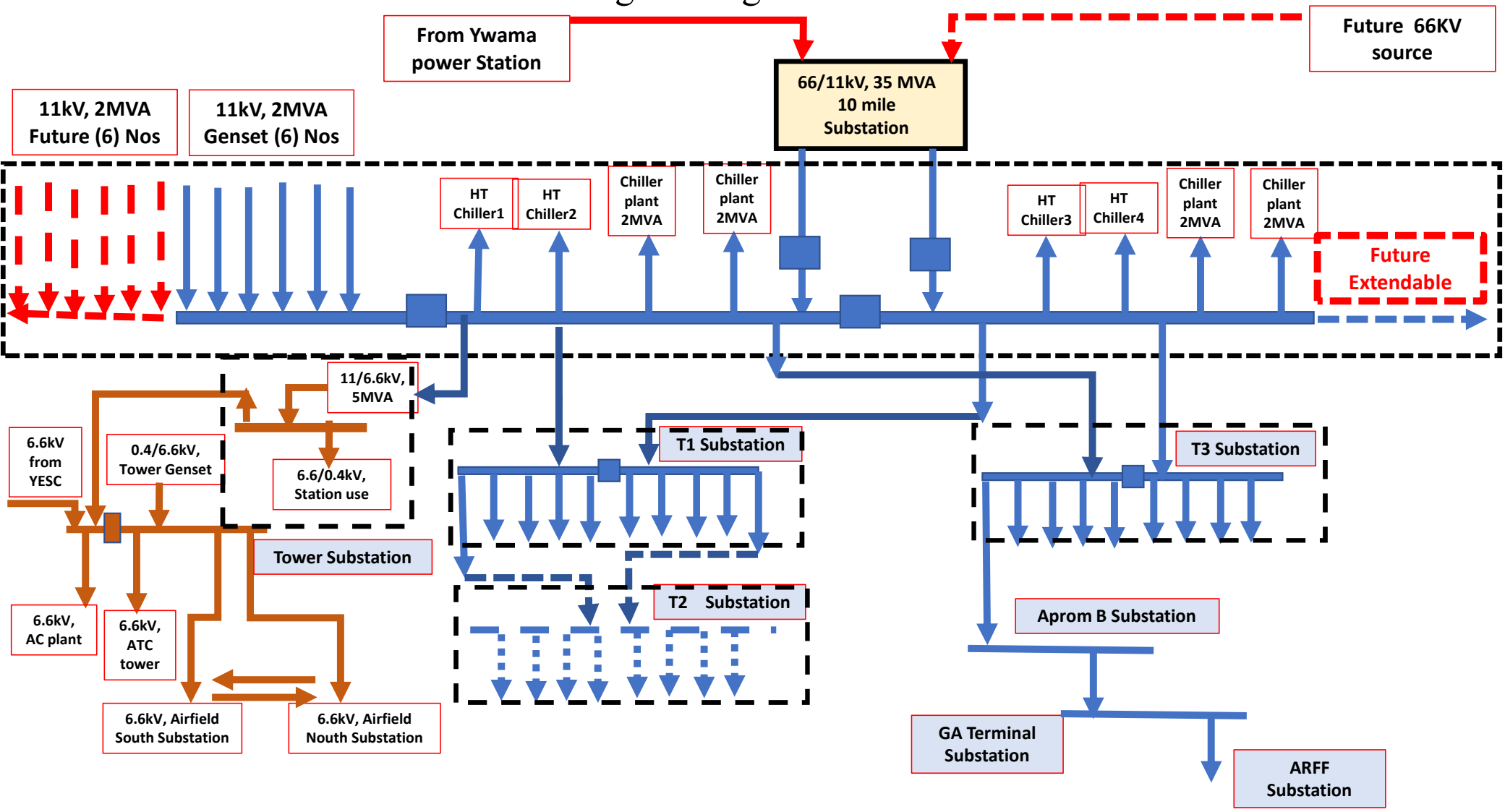
Construction Corporation (Electrical Base Workshop)	(1978-1981)
Myaung Mya Jute Mill Project)	(1980-1981)
Glass Factory (Thanlyin)	(1981-2000)
Ngwe Saung beach resort & Electric distribution Project	(2000-2001)
Thantithukha Building	(2000)
Ywa Thar Gyi Mental Hospital	(2001-2002),
Asia World Port Terminal Construction and Maintenance	(2000-2004)
Wartayar Timber mill & Residential Construction Project	(2002-2003),
Mitta Nyunt Housing Project	(2002-2004)
Military Office Buildings (1,2,3,7) NayPyiTaw Special Projects	(2003-2006)
Yangon International Airport Extension Project	(2004-2007)
Yeywar Hydropower Plant Crushing Plant	(2004-2005)
Konenyang Hydro power Plant Electrical System Renovation	(2005 - 2006)
Namtu Mining Renovation Project & Tilling Plant	(2005 - 2006)

Shwe Li HydroPower Plant (2005 - 2006) Crushing Plant	(2006 - 2007)
Myaung Ta Gar Fertilizer Plant Project	(2008-2010)
NayPyiTaw City Hall	(2009 – 2010)
Thaukyegat Hydropower Plant	(20012-2013)
Hledan Centre Project (Shopping Centre & Apartment Building)	(2010-2013)
NayPyiTaw International Airport Project	**(2009-2011)**
NayPyiTaw Horizon Lake View Resort Project	(2011-2014)
Shangri-La Residence Project	(2012-2013)
Paragon Residences Project	(2013) 000
Yangon International Airport Development Project	**(2014 to at present)**
Tha pyay wa 30MW solar power Plant (Supporting of supervision Engineer & manpower)	**(2021 to present)**
Taungdawkwin 20MW solar power Plant (Supporting of supervision Engineer & manpower)	**(2022 to present)**

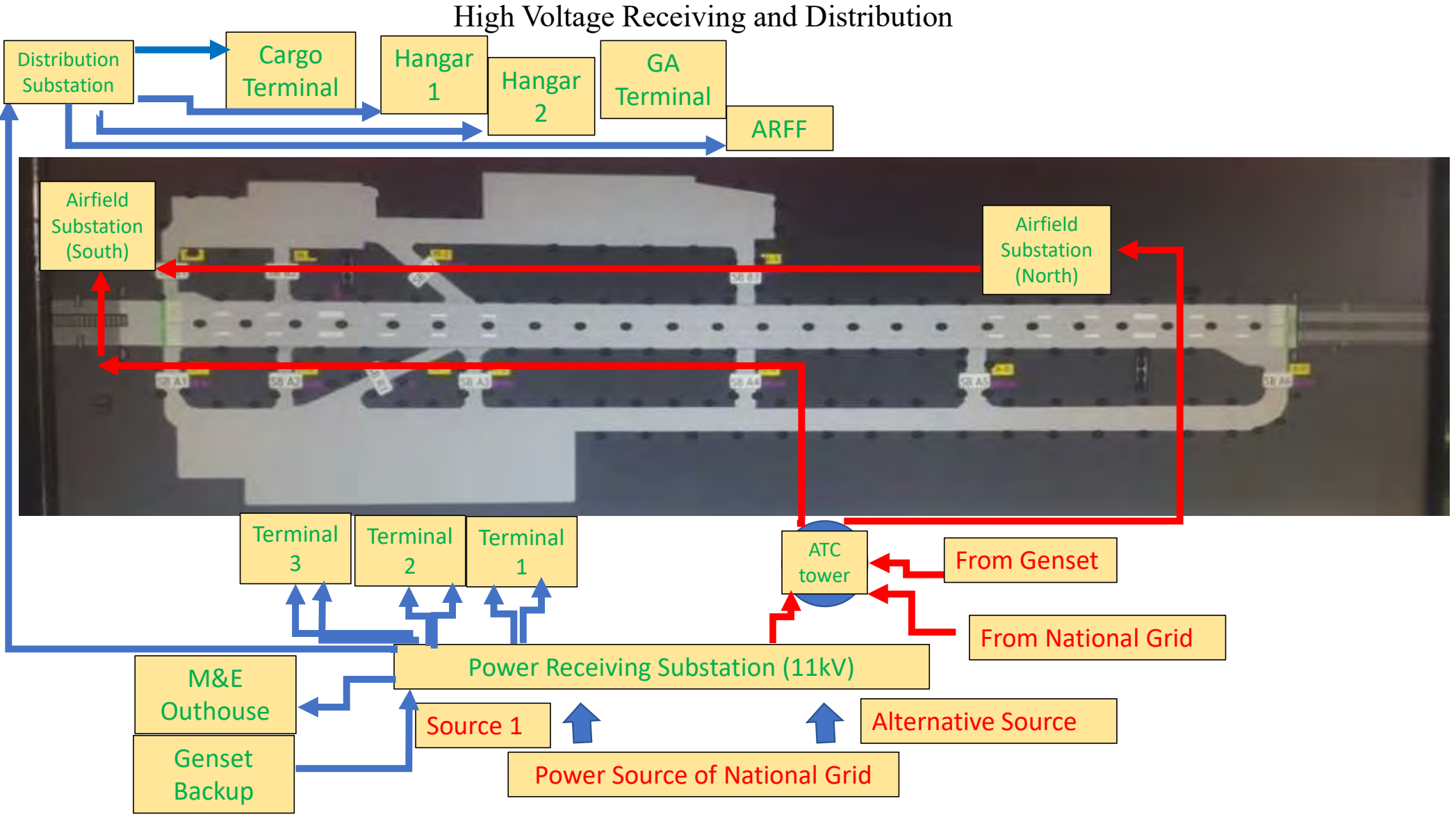
Yangon International Airport 11KV power distribution Present & Future Plan



YIAD High Voltage Distribution



High Voltage Receiving and Distribution



Installation of YIAD Project Main substation & Distribution System

66kV D/S & HGIS
HUYU

66/11kV, 35MVA X'mer
HUYU, China

11KV 2 In 2 Out + Tie
Switchgear
HUYU, China

12KV U/G cable, 2 Lines
Universal

12kV Switchgears,(Type
Test)
Siemen, SIMOPRIME
Hainam, Vietnam

Terminal 1

12kV Switchgears
Siemen, SIMOPRIME
Hainam, Vietnam

11/.4kV,2MVA,Drytype
X'mer, HUYU

400V MSB. Plisma,Type
Test Schneider. SuperMega

11kV Output, 2MVA
Gensets x 6 No, Mitsubishi

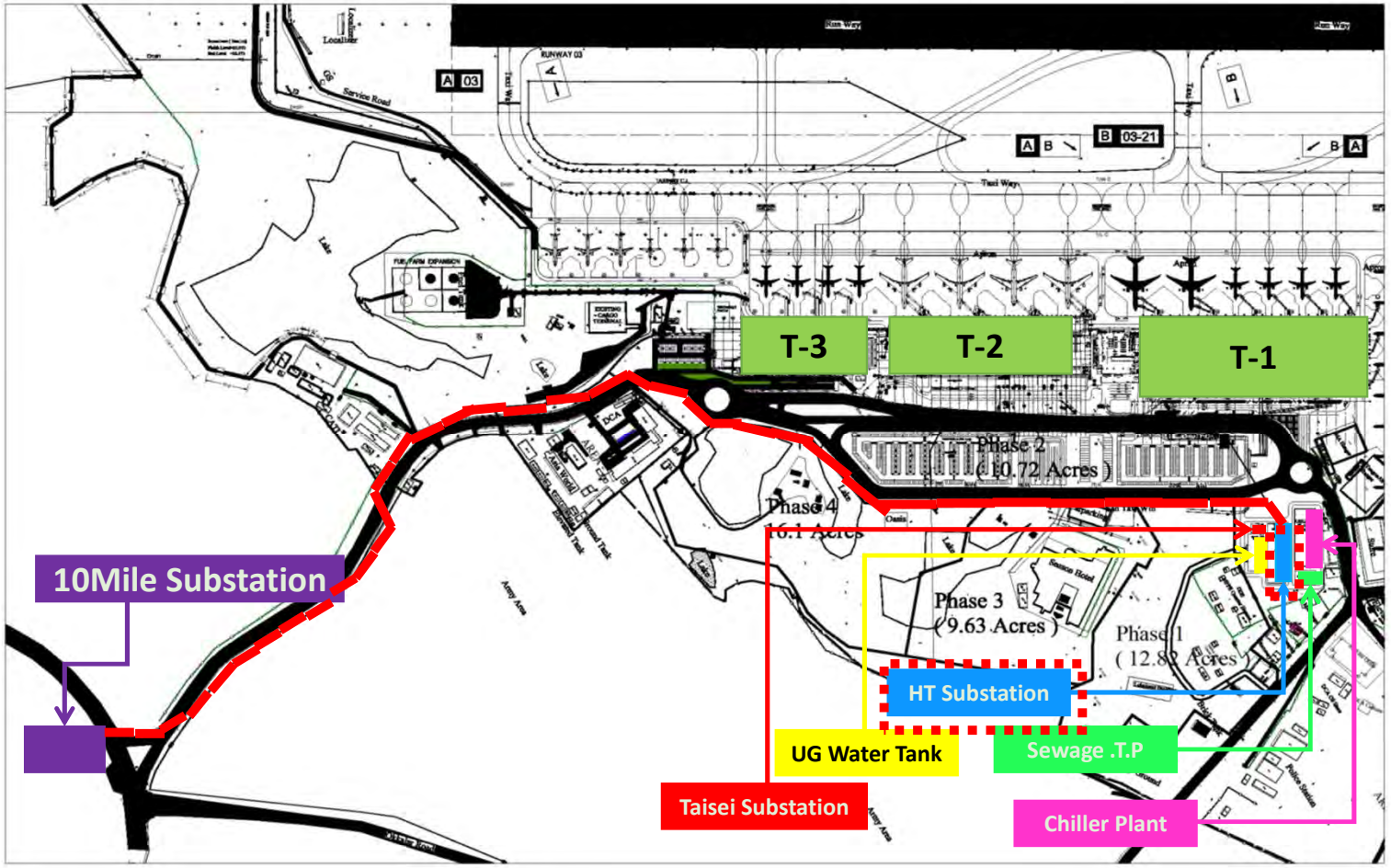
Terminal 3

12kV Switchgears
Siemen, SIMOPRIME
Hainam, Vietnam

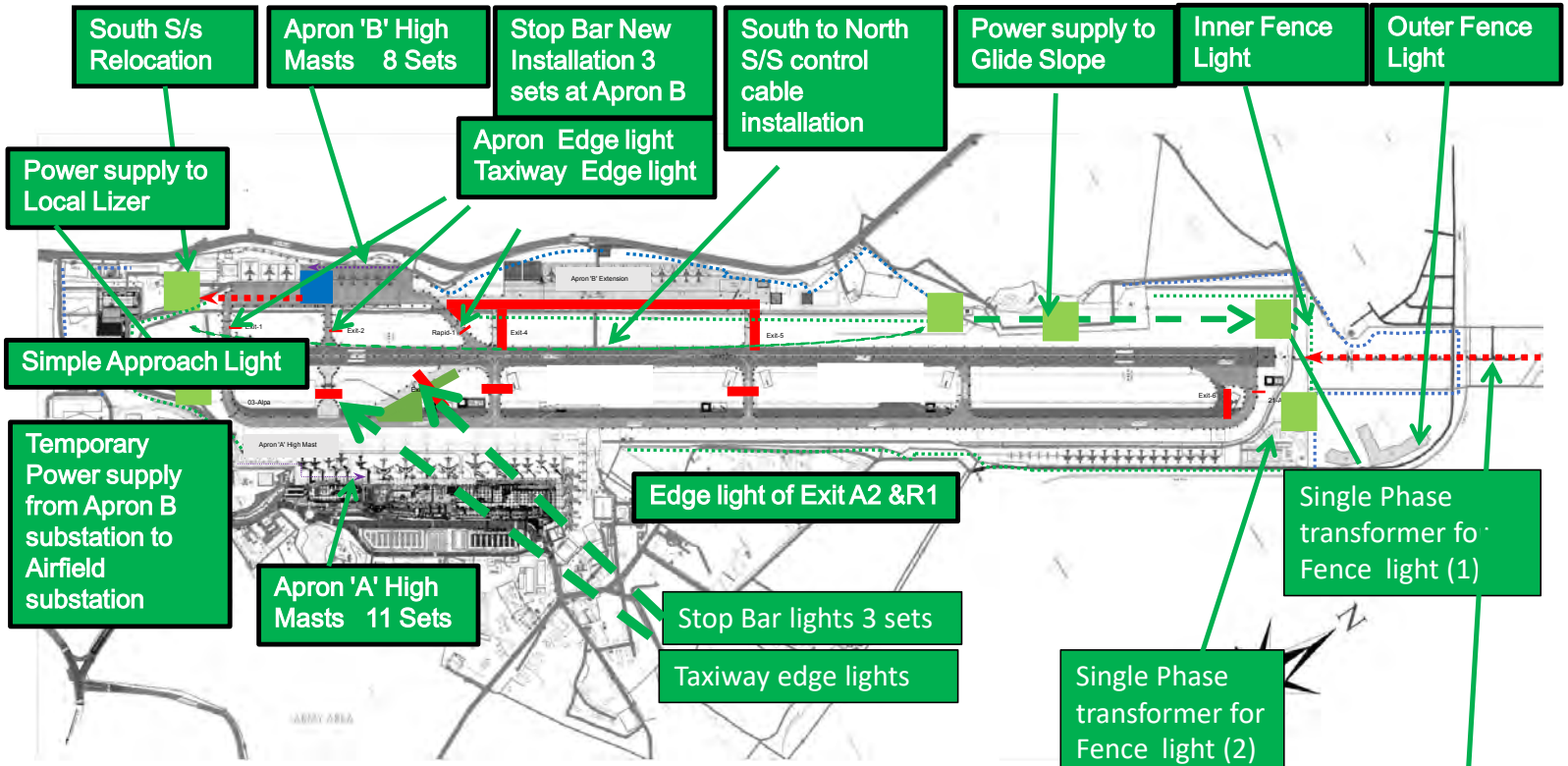
11/.4kV,2MVA,Drytype
X'mer, HUYU

400V MSB. Blockset (Type
Test) Schneider. Hainam

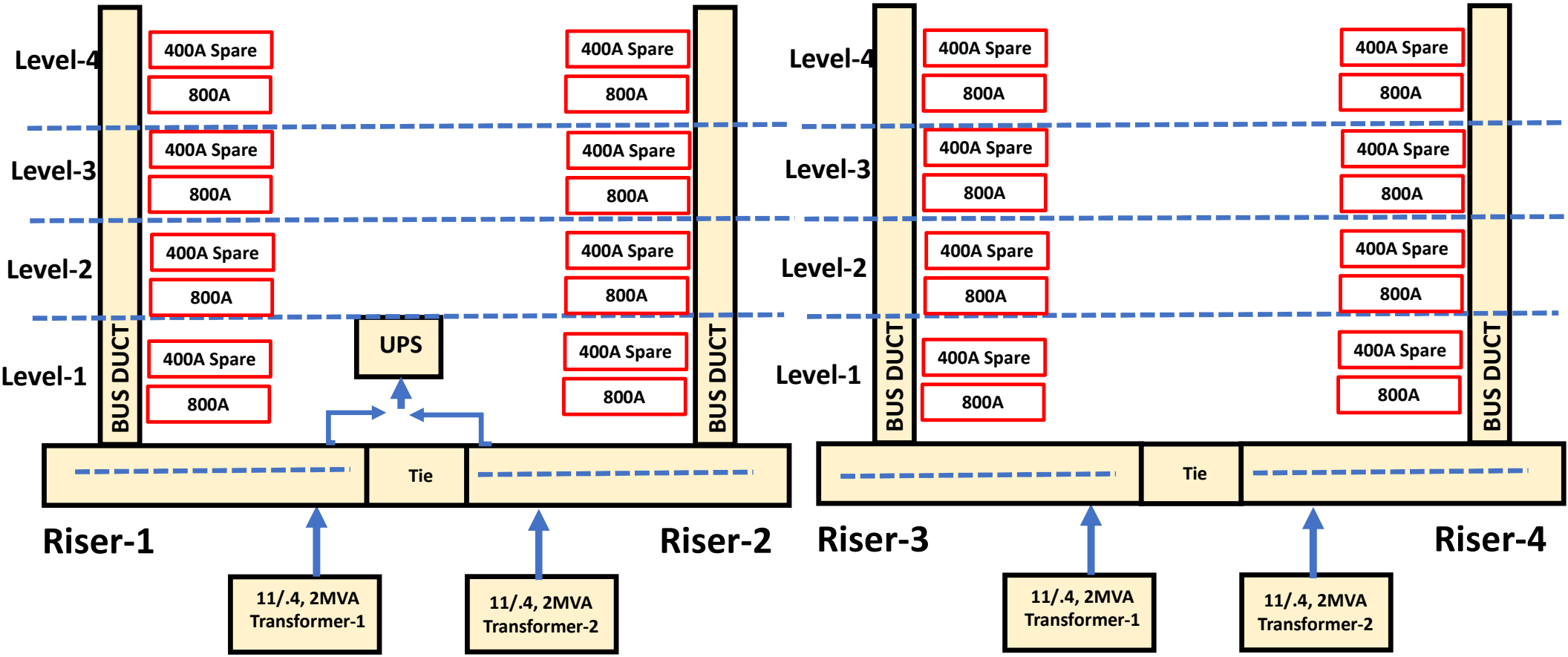
Building Location Plan



Upgrading of Airfield Lighting Systems



Low Voltage Distribution



Main points to consider Electricity for International Airport

1) Supply Electricity should have alternative sources.

2) Main Substation have at least 2 main transformers and capacity should be adequate double capacity.(Incase of one transformer fail remain transformer must be adequate for consuming loads.)

3) Incoming cable also 2 incoming. (one cable had fault , remain cable line can work full duty.)

4) All electrical distribution must be underground cable in airport compound.

5) Backup emergency power should be provided 100%

6) UPS power should be provided for all Airport system servers , lighting and power for Important area.

What is Type Test Panel


This video received from Hainam Switchboard manufacturing Co., Ltd , Vietnam
Arc Voltage and Short circuit test

Creativity and Innovation


ASIA WORLD
GROUP OF COMPANIES
Fredrik Haren
Global Keynote Speaker
Creativity & Innovation

IDEA = P (K + I)

IDEA = P (K + I)

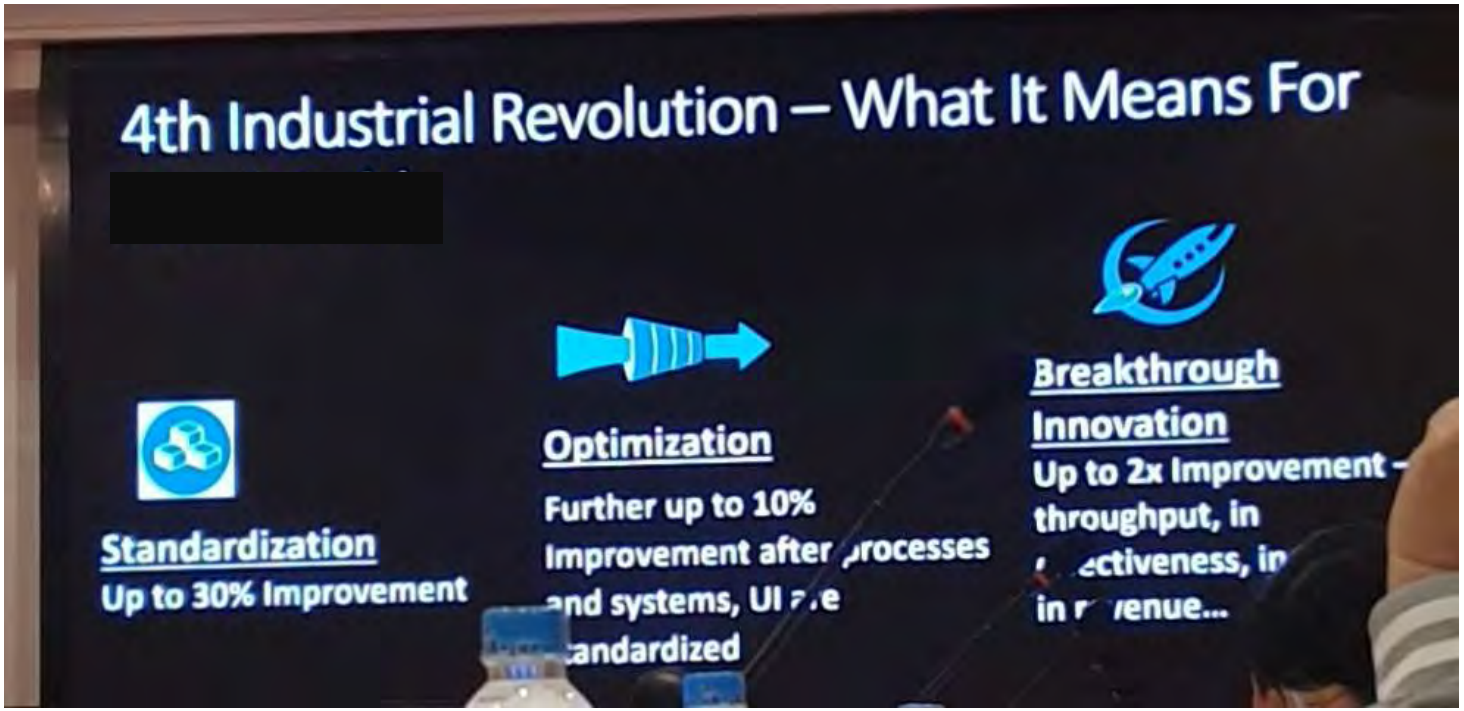
P = Person

K = Knowledge

I = Information

Another Speaker RAMCO also presented about :–

IR 4.0



What is IR (Industrial Revolution)

Myanmar also
Target to → **IR 4.0**

1760 (18 Century)	**IR 1.0**
1870 (19 Century)	**IR 2.0**
1969 (20 Century)	**IR 3.0**
2011 (21 Century)	**IR 4.0**

1760 (18 Century) IR 1.0

Power changed to Mechanization for production

Steam Power

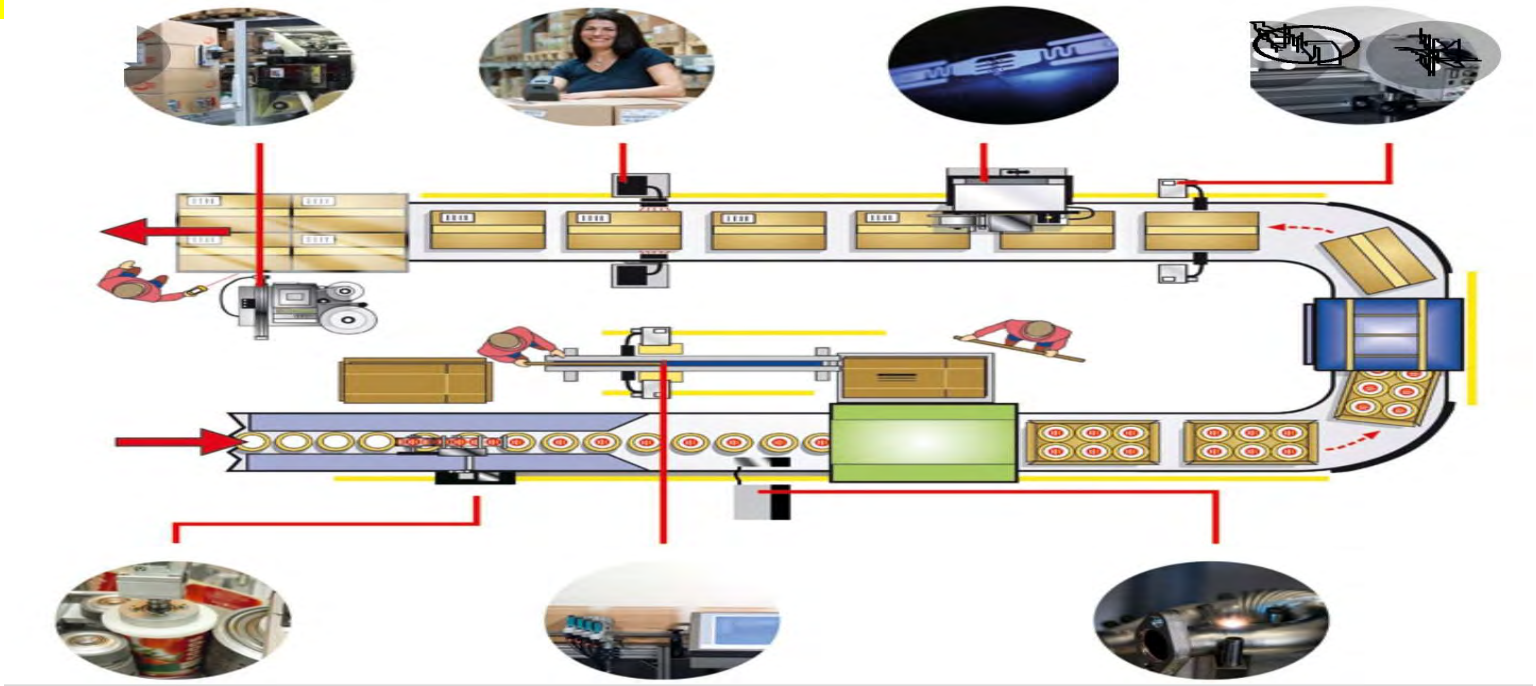
Steam Engines

Steamship

Steam– powered Locomotive

1870 (19 Century) IR 2.0

Discovery of electricity and assembly line production

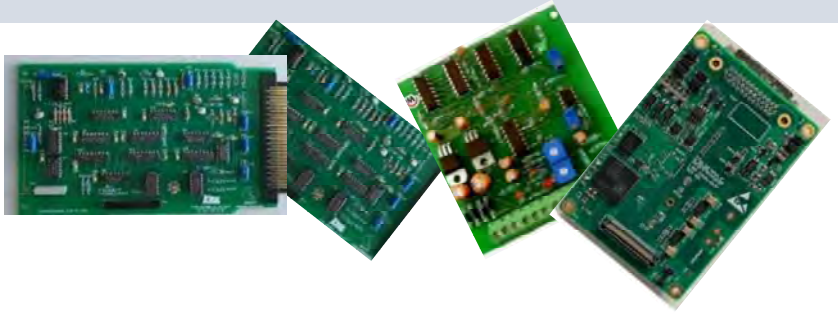


Idea of mass production, faster and lower cost

1969 (20 Century)

IR 3.0

Electronics



Memory– Programmable Controls

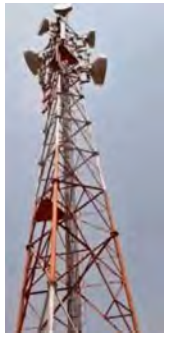
Programmable Logic Controls

Automation in production process

2011 (21 Century)

IR 4.0

Information **T**echnologies



Computer **T**echnologies

Communication **T**echnologies

Networking

Smart factories

Smart Homes, etc:-

2021 (21 Century)
IR 5.0

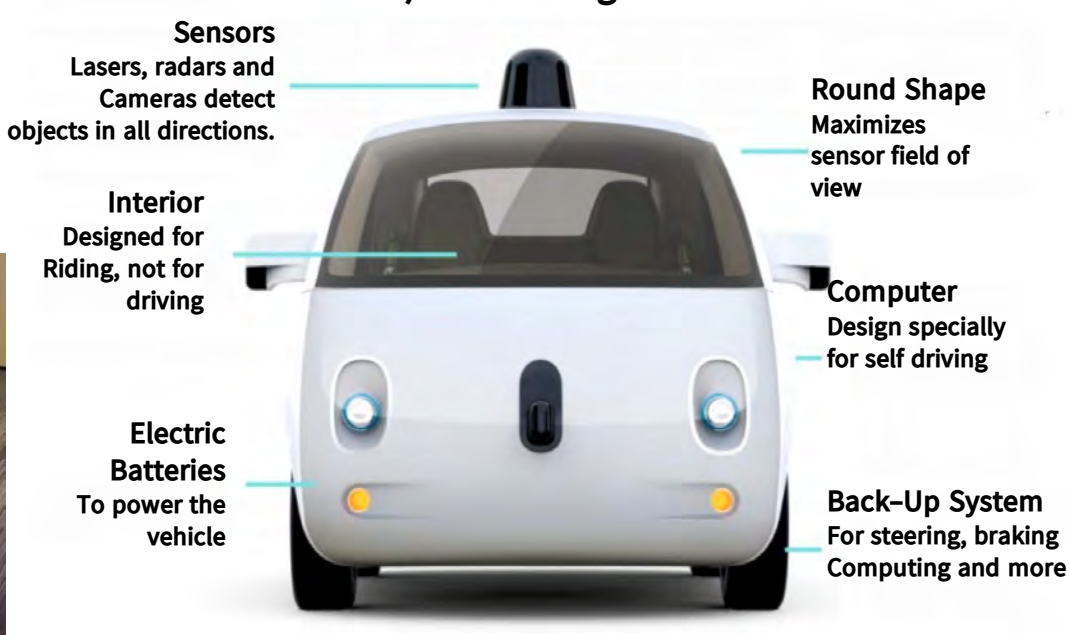
What is Industry Revolution IR 5.0?

1) People working alongside robots and smart machines

2) Robots helping humans work better and faster by leveraging advanced technologies like the Internet Of Things (IoT) and big data.

3) Robots with advanced AI technologies. AI (Artificial Intelligence)

4) Self driving Car



Let study myself 1986 (During 3 months job training in Germany)

Batch mixing Plant

Germany

Computerized batch mixing System

Can mix different kinds of glass batch at least 60 tons to 200 tons furnace 20 nos.

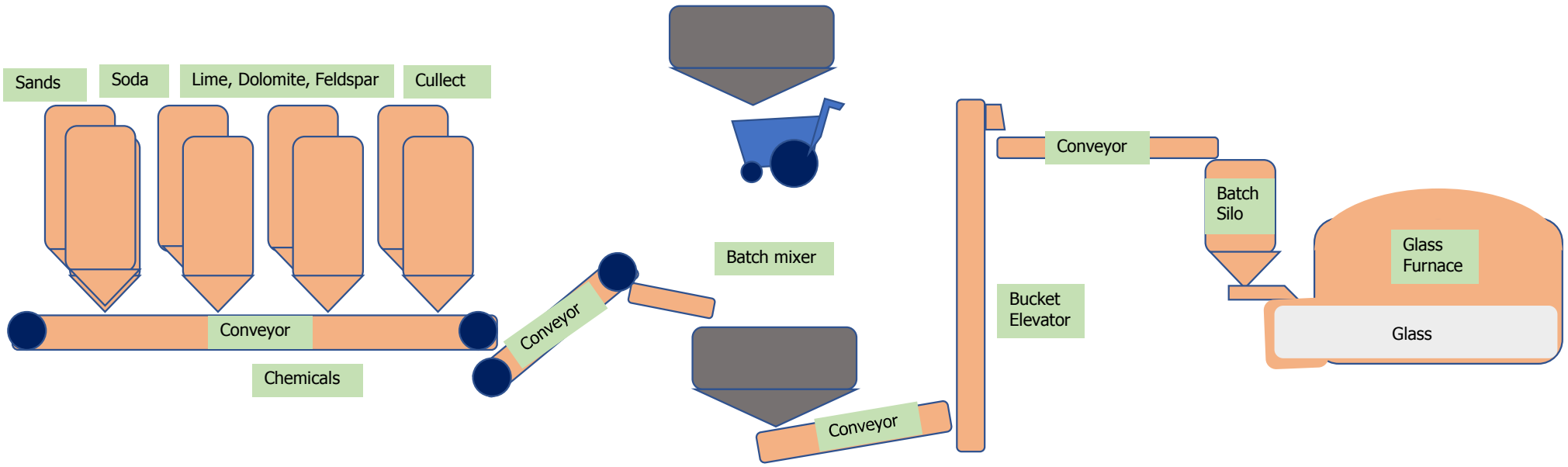
1 controller/ shift and 3 person/24 hrs

Myanmar

Man power + mechanization

Can mix different kinds of glass batch 30 tons furnace 2 No

10persons/ shift and 30 person/24 hrs



Quality Control of finished goods

Germany	Myanmar
Automatic Inspection equipment	Visual inspected by manpower
1 person of Inspector/ 4 production Lines/8 hrs	8 person of Inspectors/ 4 production Lines/8 hrs

Driverless transporting system and Automatic Packing

1 no of Transporting machine is waiting for 4 production lines , that machine carry and send the pallet system product to automatic packaging machine.	Man power
Man power 1person/1 line	Man power 10 persons/1 line

We can used Computerized batch mixing in 1996 , operated with automatic, semiautomatic and manual.

But this system is out of automatic function after 2001 because less of proper maintenance and unskillful operation.

Lesson

Very important to operate and maintenance with Skill Operators and Engineer to run prolong life. After installed.

IDEA = P (K + I)

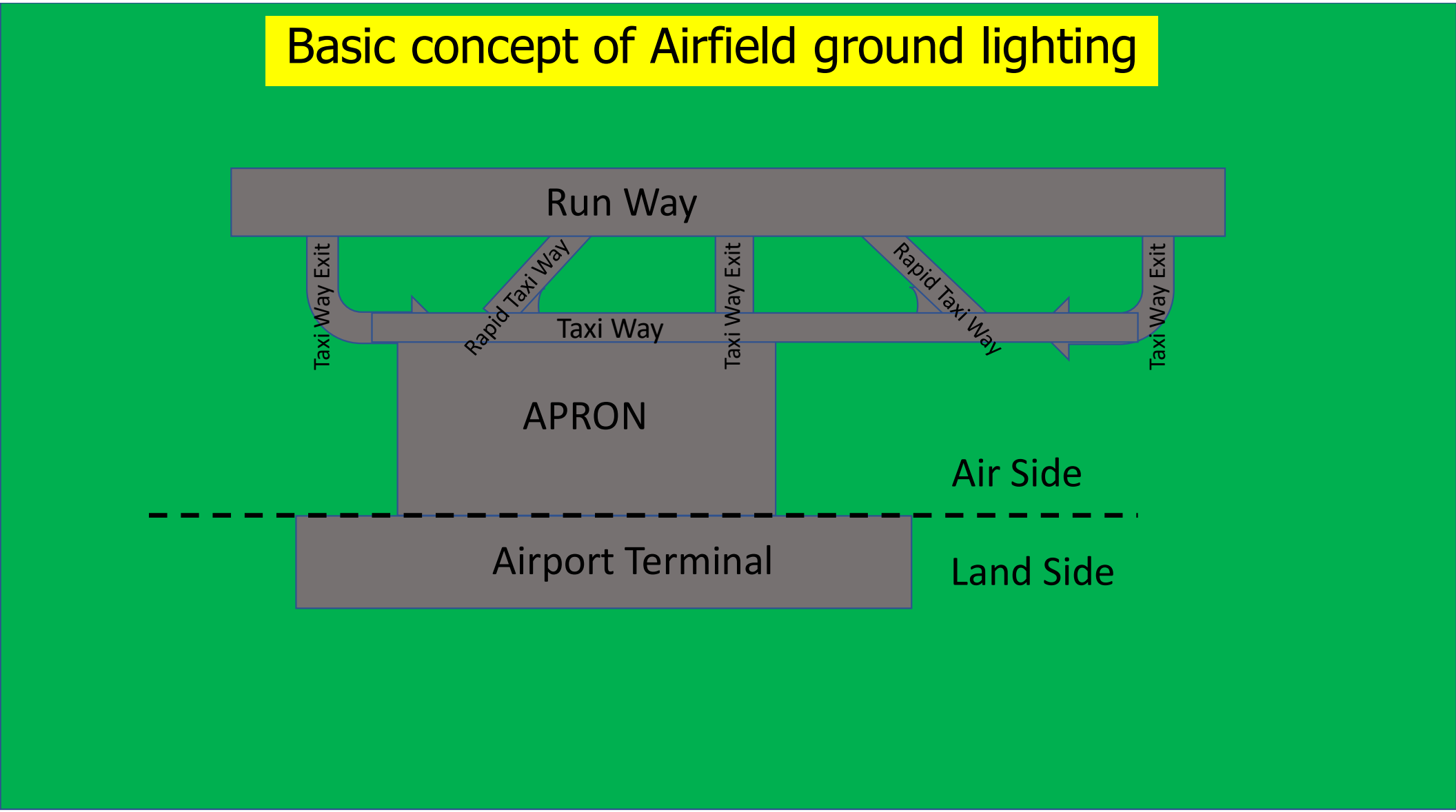
Review on myself

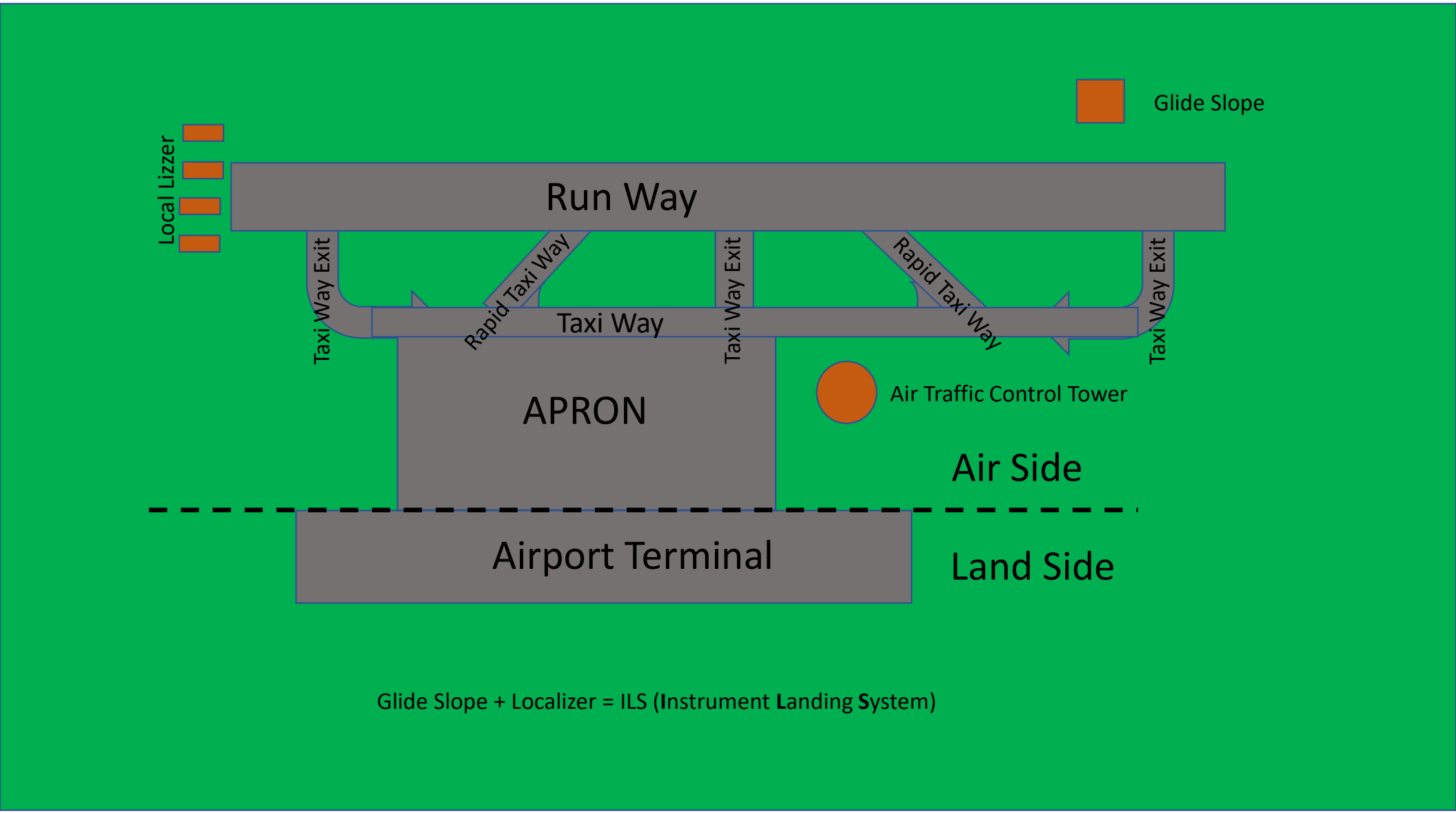
Creation , Innovation

I would like to show my (5) creation

1) Airfield lighting control system (SCADA)
2) Sequential Flash Lighting System
3) Runway Threshold Identification Light (RTIL)
4) Remote control drive for Cart and Chair
5) Socket Tester

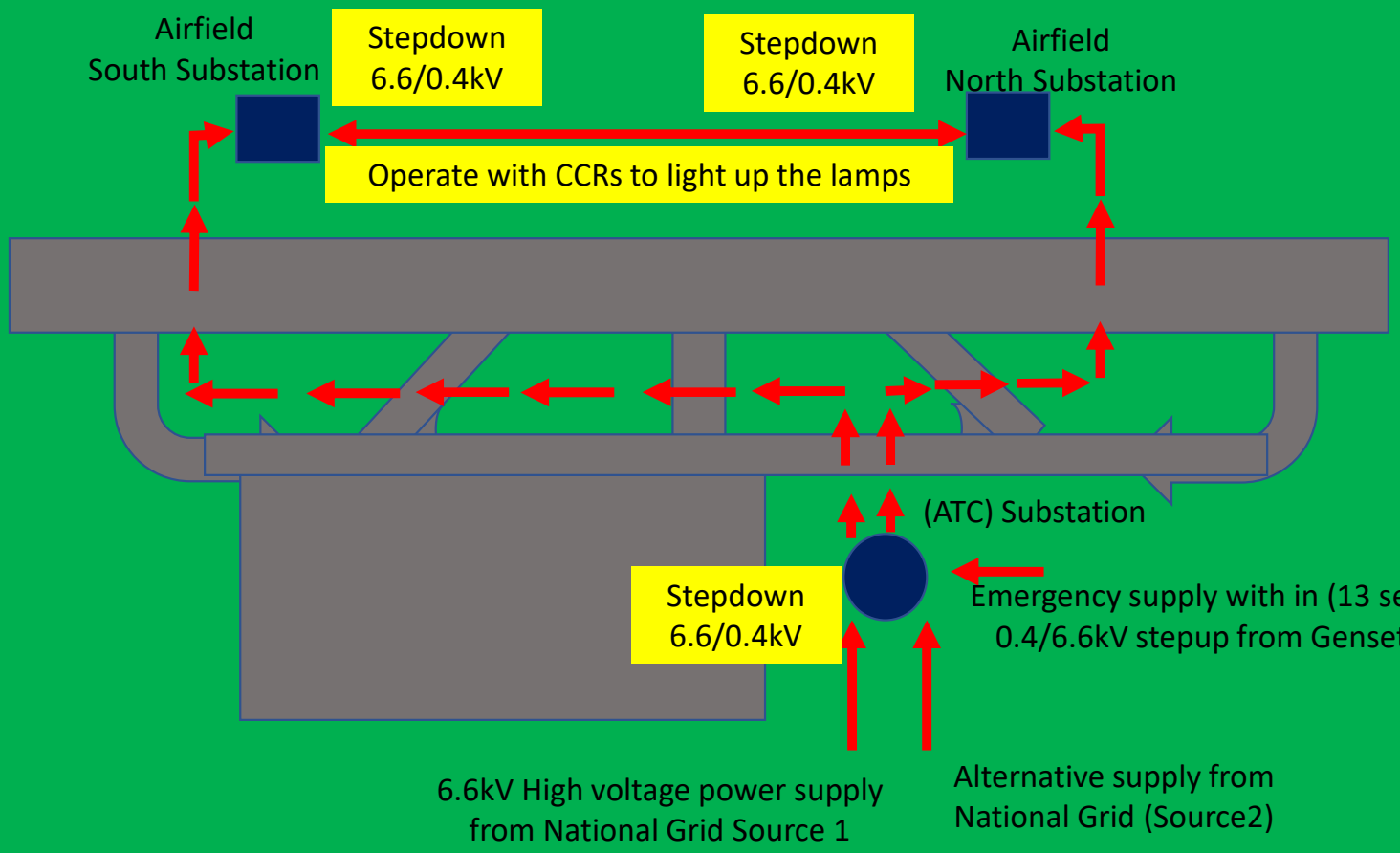
Basic concept of Airfield ground lighting

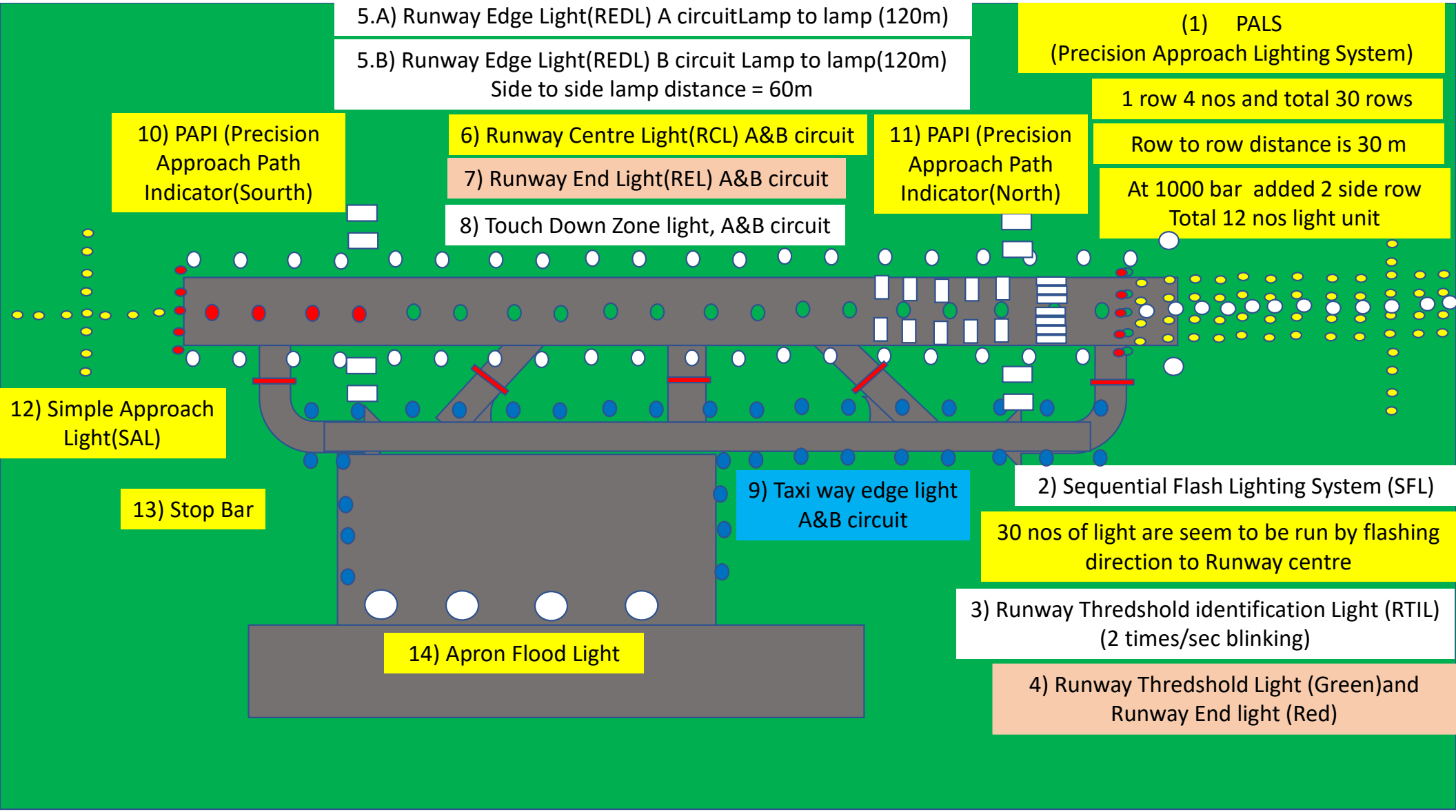




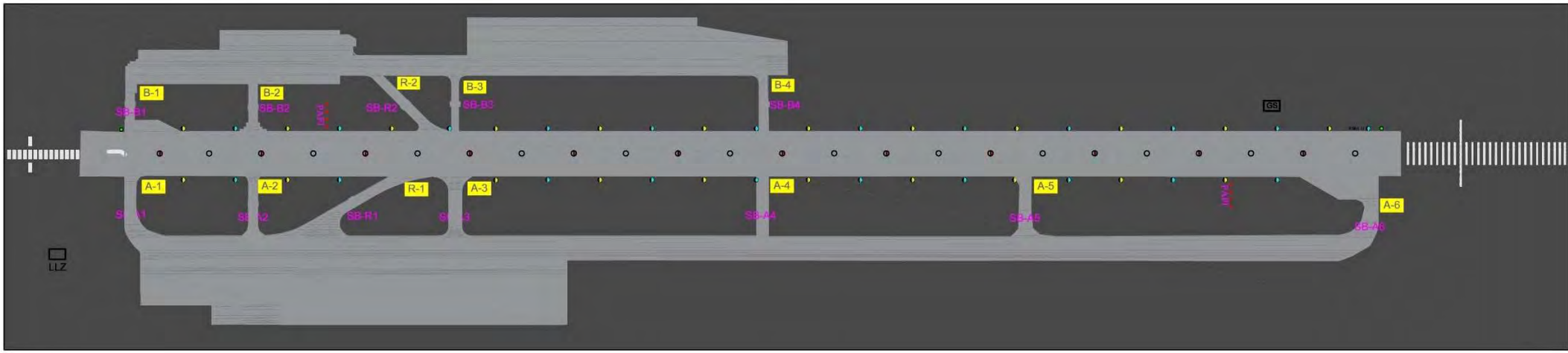
Glide Slope + Localizer = ILS (**I**nstrument **L**anding **S**ystem)

High Voltage power distribution for Airfield Ground Lighting




5.A) Runway Edge Light(REDL) A circuitLamp to lamp (120m)
5.B) Runway Edge Light(REDL) B circuit Lamp to lamp(120m)
Side to side lamp distance = 60m
(1) PALS
(Precision Approach Lighting System)
1 row 4 nos and total 30 rows
Row to row distance is 30 m
At 1000 bar added 2 side row
Total 12 nos light unit
10) PAPI (Precision Approach Path Indicator(Sourth)
6) Runway Centre Light(RCL) A&B circuit
7) Runway End Light(REL) A&B circuit
8) Touch Down Zone light, A&B circuit
11) PAPI (Precision Approach Path Indicator(North)
12) Simple Approach Light(SAL)
13) Stop Bar
9) Taxi way edge light A&B circuit
2) Sequential Flash Lighting System (SFL)
30 nos of light are seem to be run by flashing direction to Runway centre
3) Runway Thredshold identification Light (RTIL)
(2 times/sec blinking)
4) Runway Thredshold Light (Green)and Runway End light (Red)
14) Apron Flood Light

Yangon International Airport Runway



What is existing airfield lighting control


Existing airfield lighting control desk
That control desk had installed since 35 year ago
“This control desk is out of date”
Need to replace with modernized ONE.

Our Team visit to China


Study to Airfield Lighting

Discussion about airfield lighting control systems

After China trip
we are thinking

What they do?, How can they do?

We realized that

Thinking & Awareness

They make money not like this way

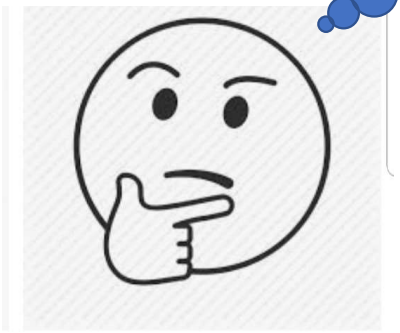
Wait Long Time = get

They make money like this way

Short Time = get a lot of

We analysis on it, we look precisely,
Our requirement system is not small amount
After received the quotation. Wwwwooo!!!!

We get the IDEA !!!



Emoji, possible solutions, thinki...

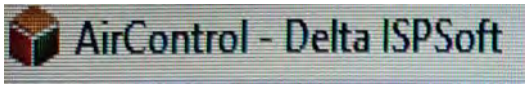
How can we do Aeronautical ground lighting control system?

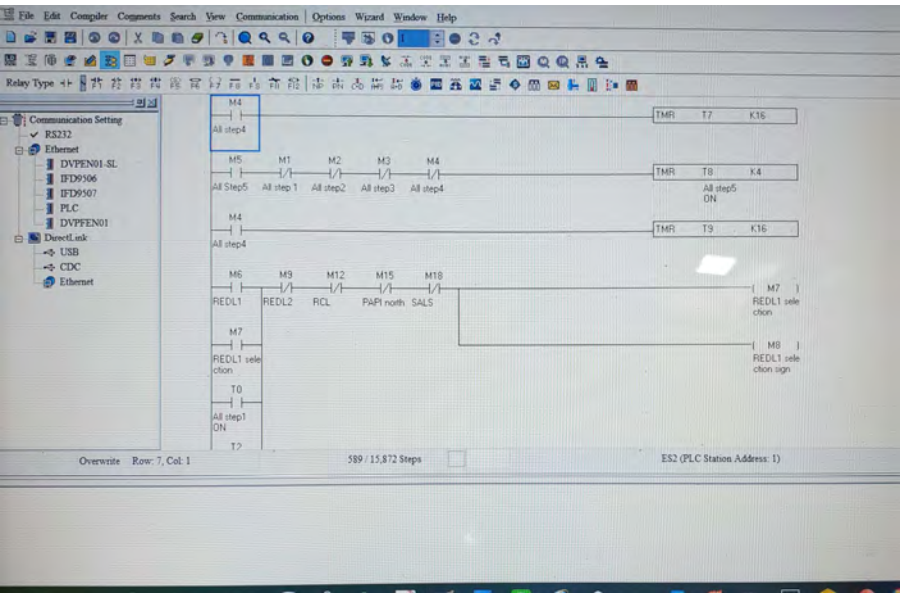
Technology **can find the solution**

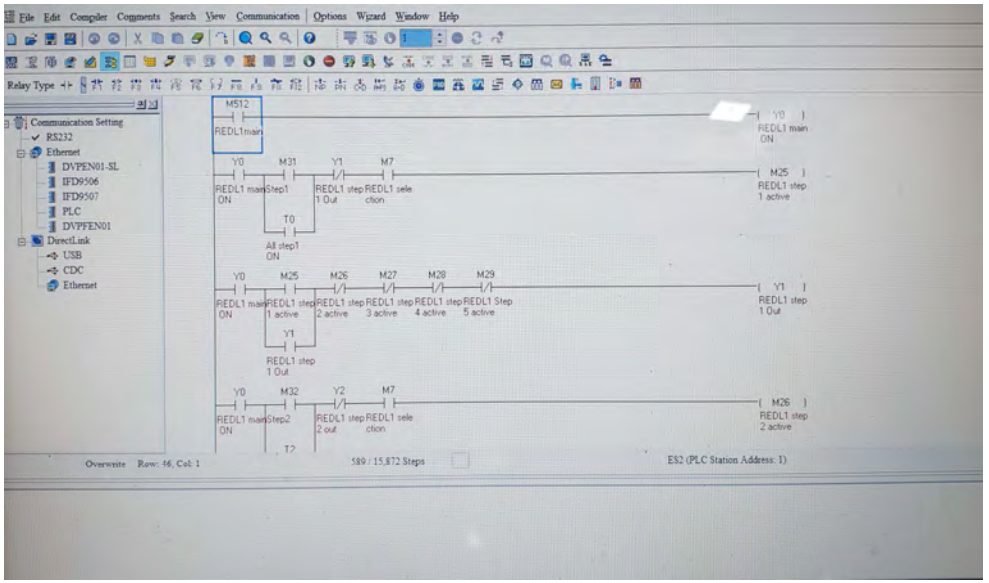
We initiate the implementation System by ourselves

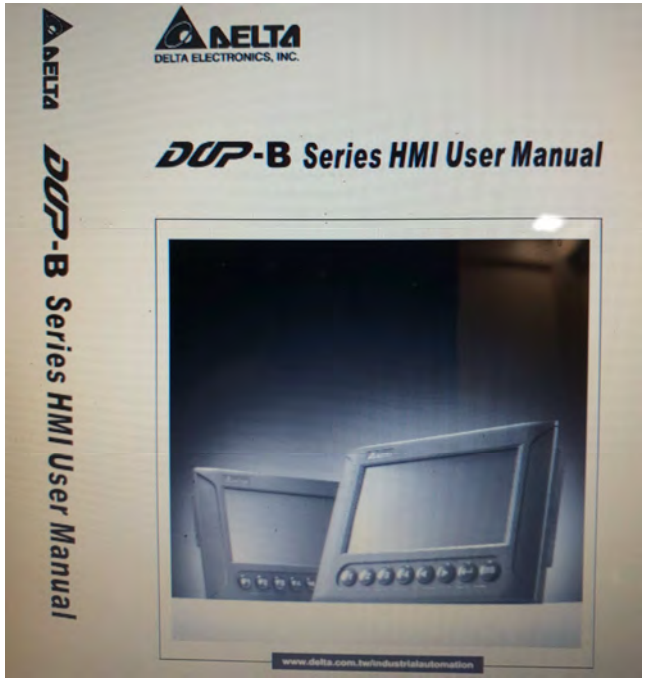
Learning of PLC programming

Programmable
Logic
Control







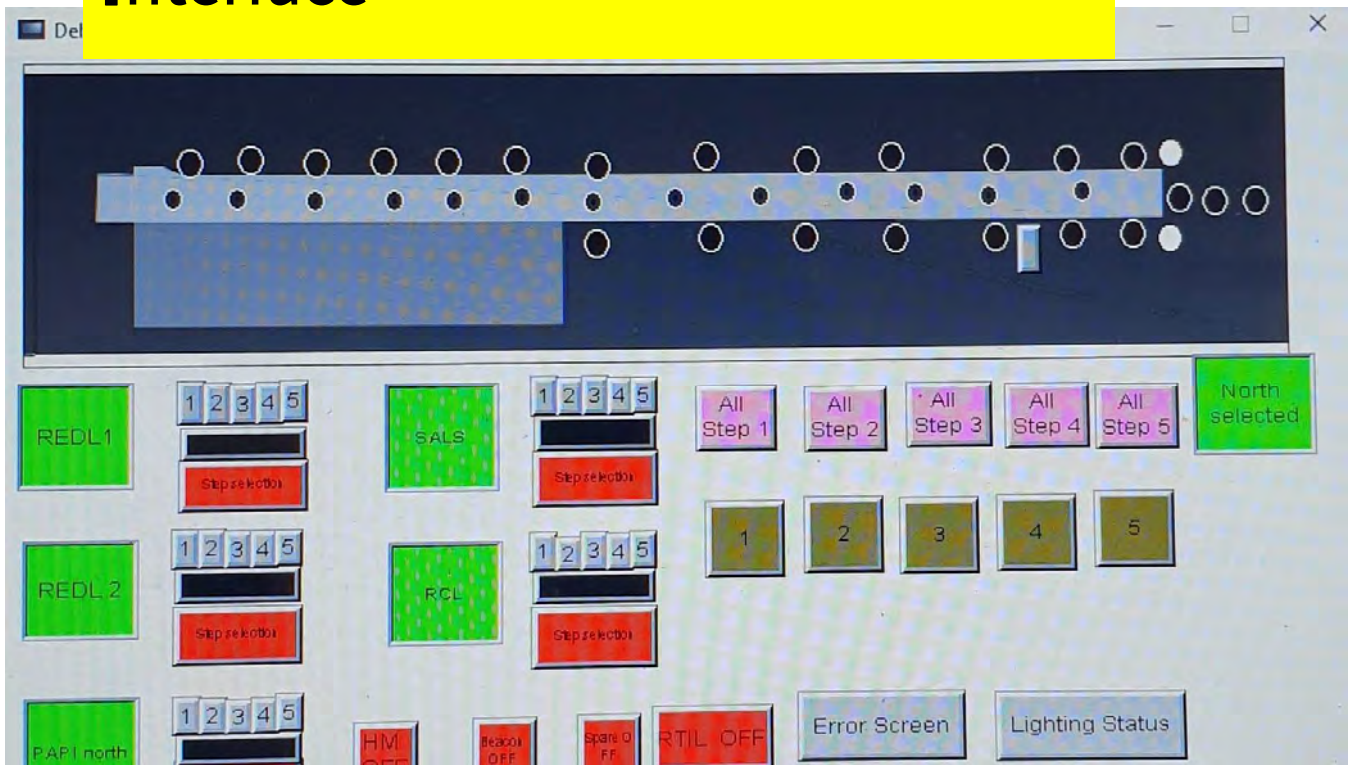


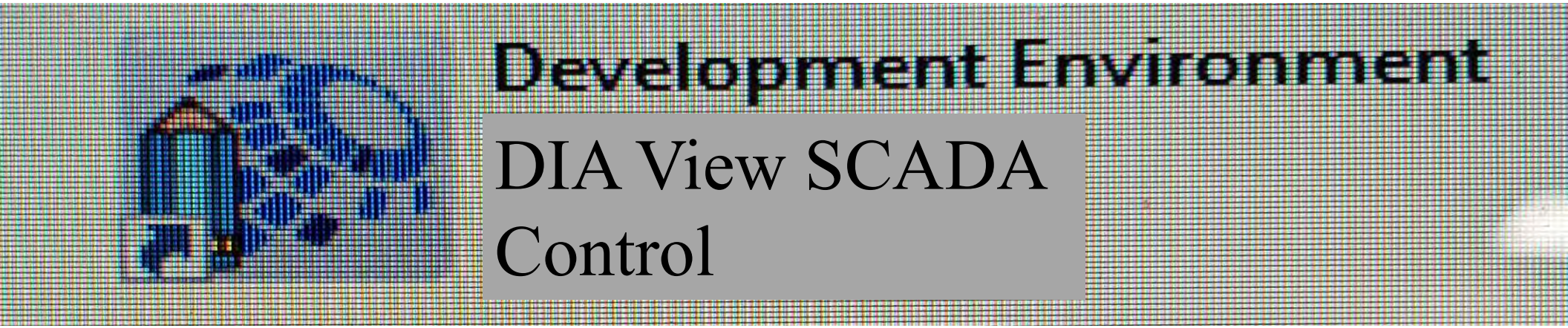
Learning of HMI Development

Humen

Machine

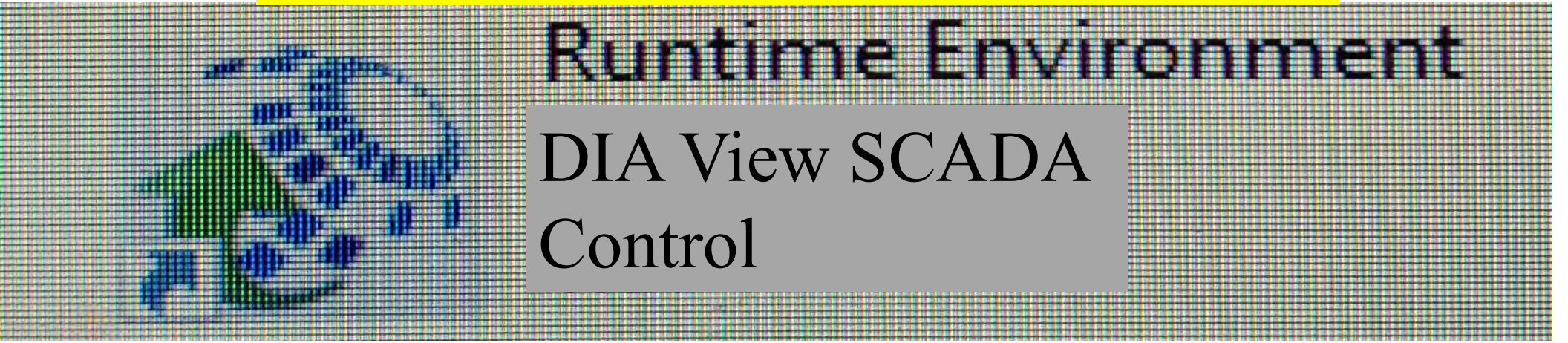
Interface





Learning of SCADA Control Development Environment

Supervisory **C**ontrol **A**nd **D**ata **A**quisition



After learned that mentioned above

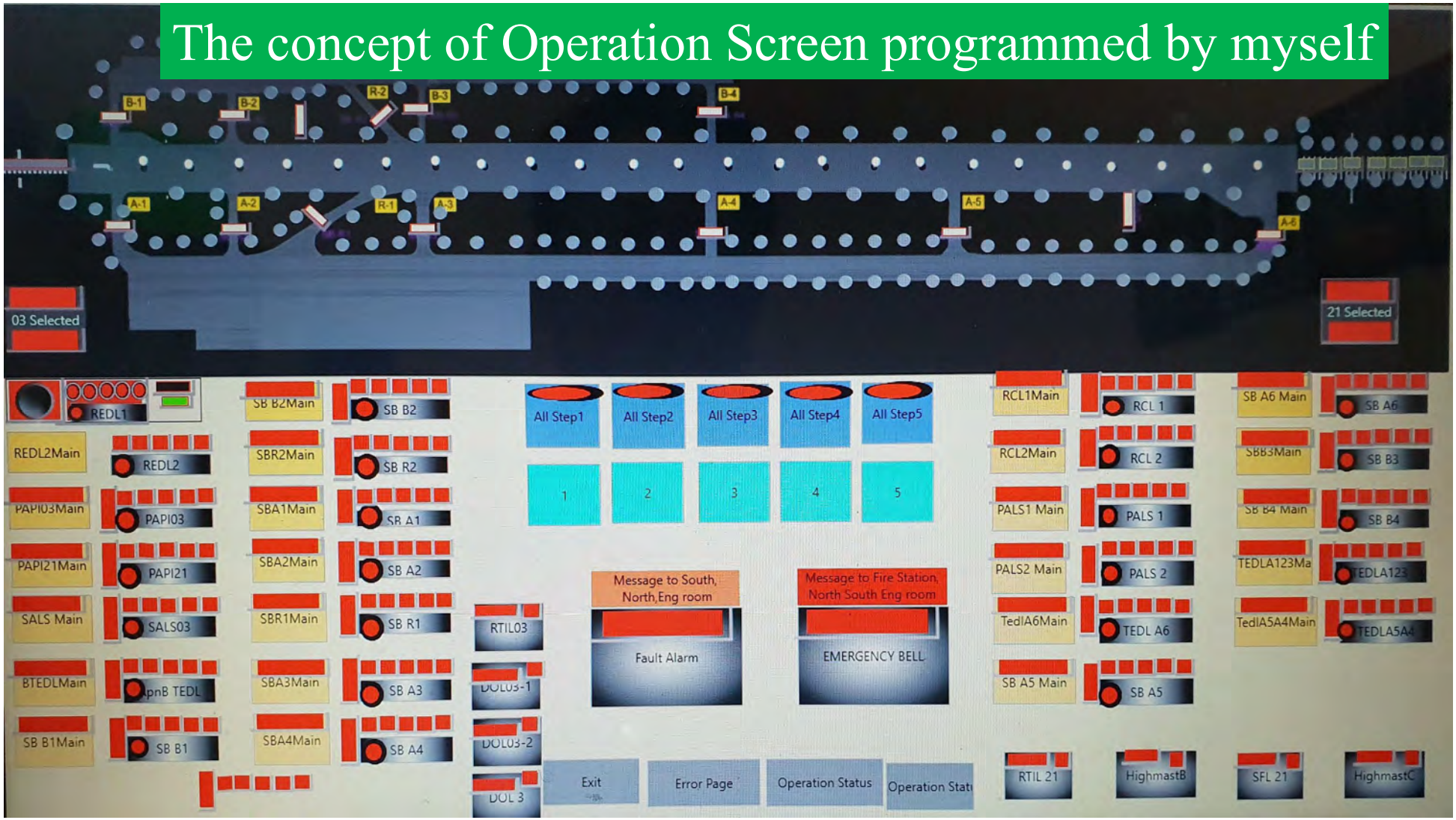
PLC programming

HMI Development

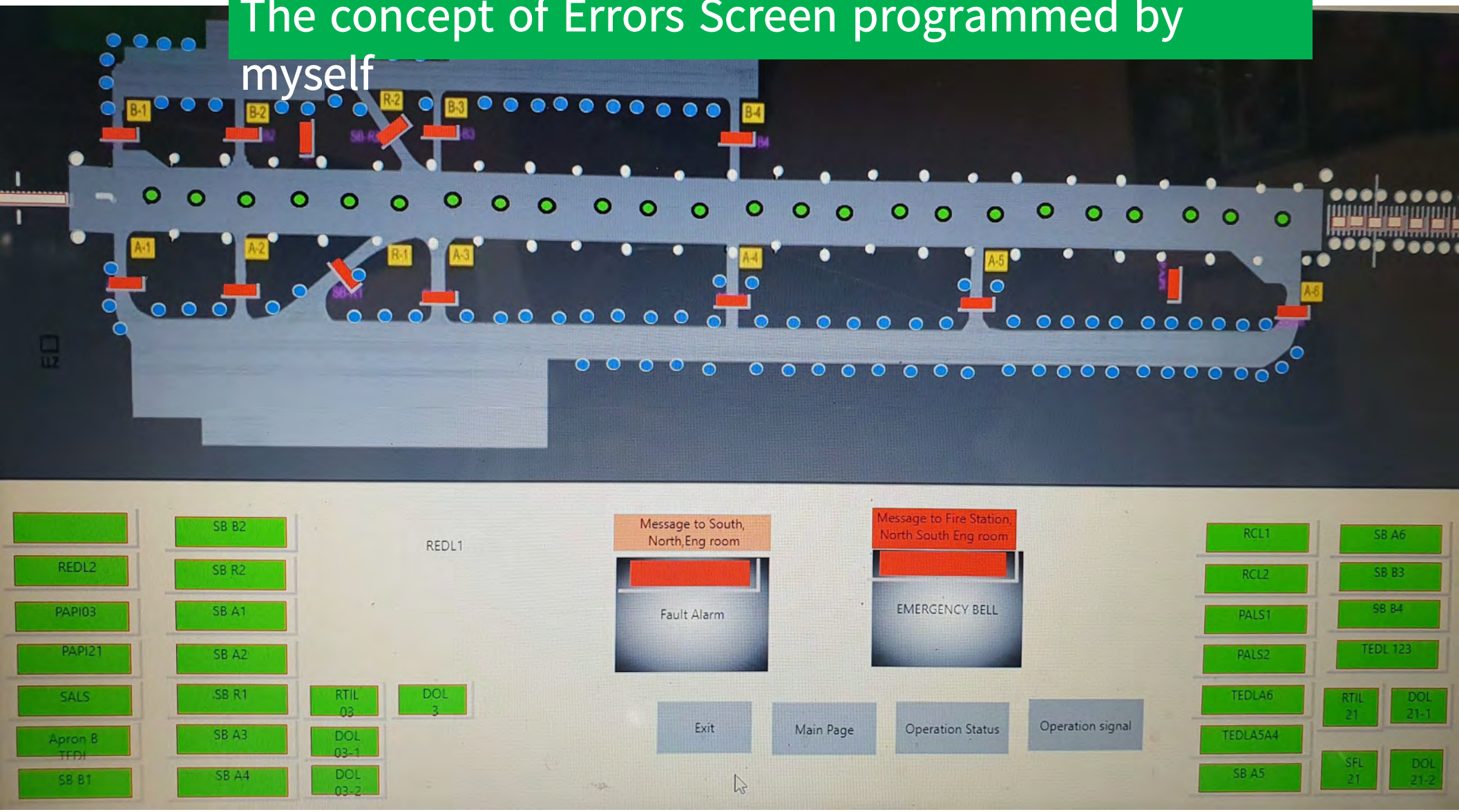
SCADA Development and Environment

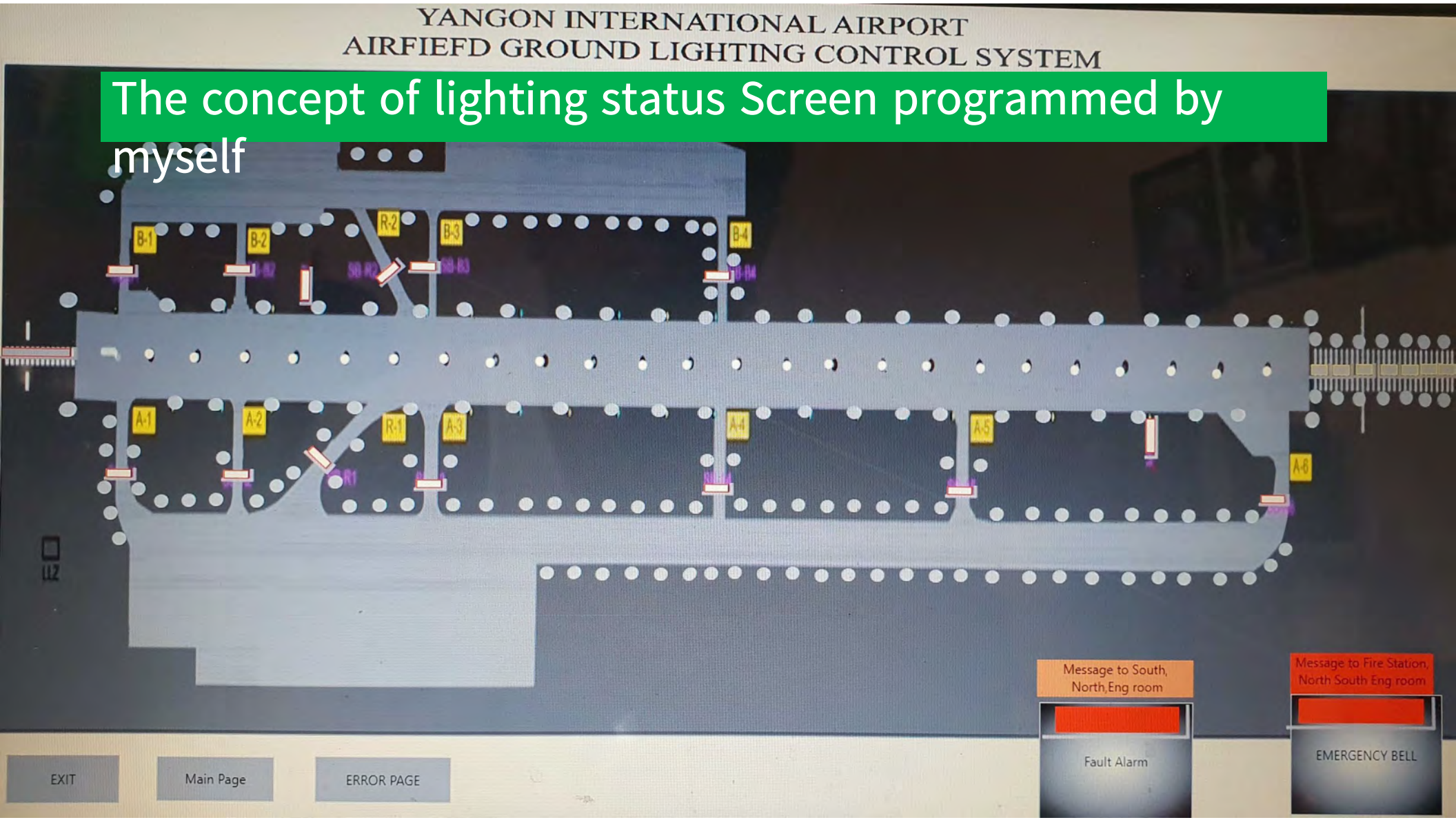
The concept of Aeronautical Ground Lighting Control is come out.

The concept of Operation Screen programmed by myself



The concept of Errors Screen programmed by myself




YANGON INTERNATIONAL AIRPORT
AIRFIEFD GROUND LIGHTING CONTROL SYSTEM
The concept of lighting status Screen programmed by myself
B-1
B-2
R-2
B-3
B-4
A-1
A-2
R-1
A-3
A-4
A-5
A-6
Message to South, North,Eng room
Fault Alarm
Message to Fire Station, North South Eng room
EMERGENCY BELL
EXIT
Main Page
ERROR PAGE

I proposed my concept of Airfield Lighting Control System to project management.

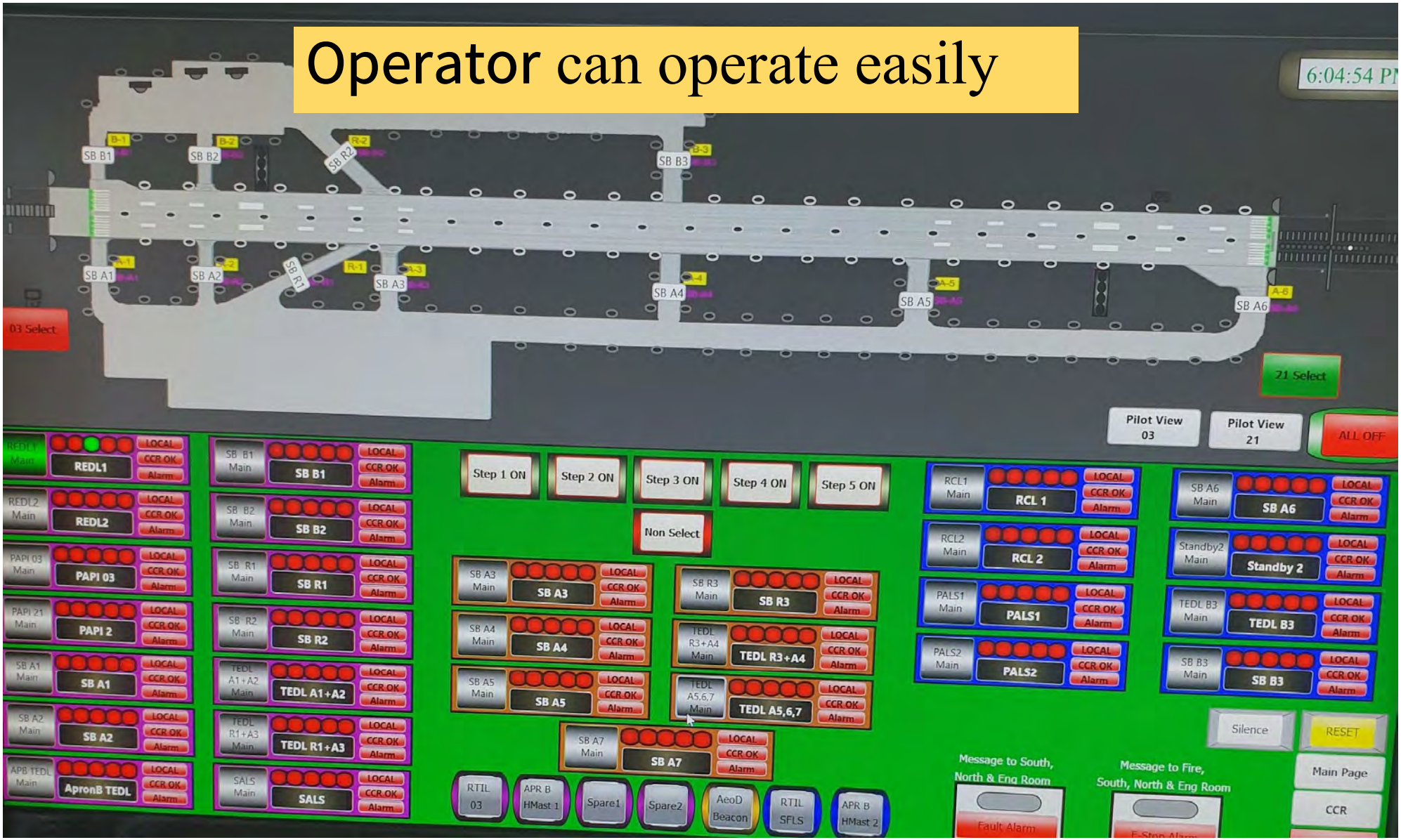
I get the agreement and advise from management, contact to professional programmer team because they know their professional work more than me.

After discussion, coordination, explained operation function requirements, the **Aeronautical Ground Lighting Control System** has completed

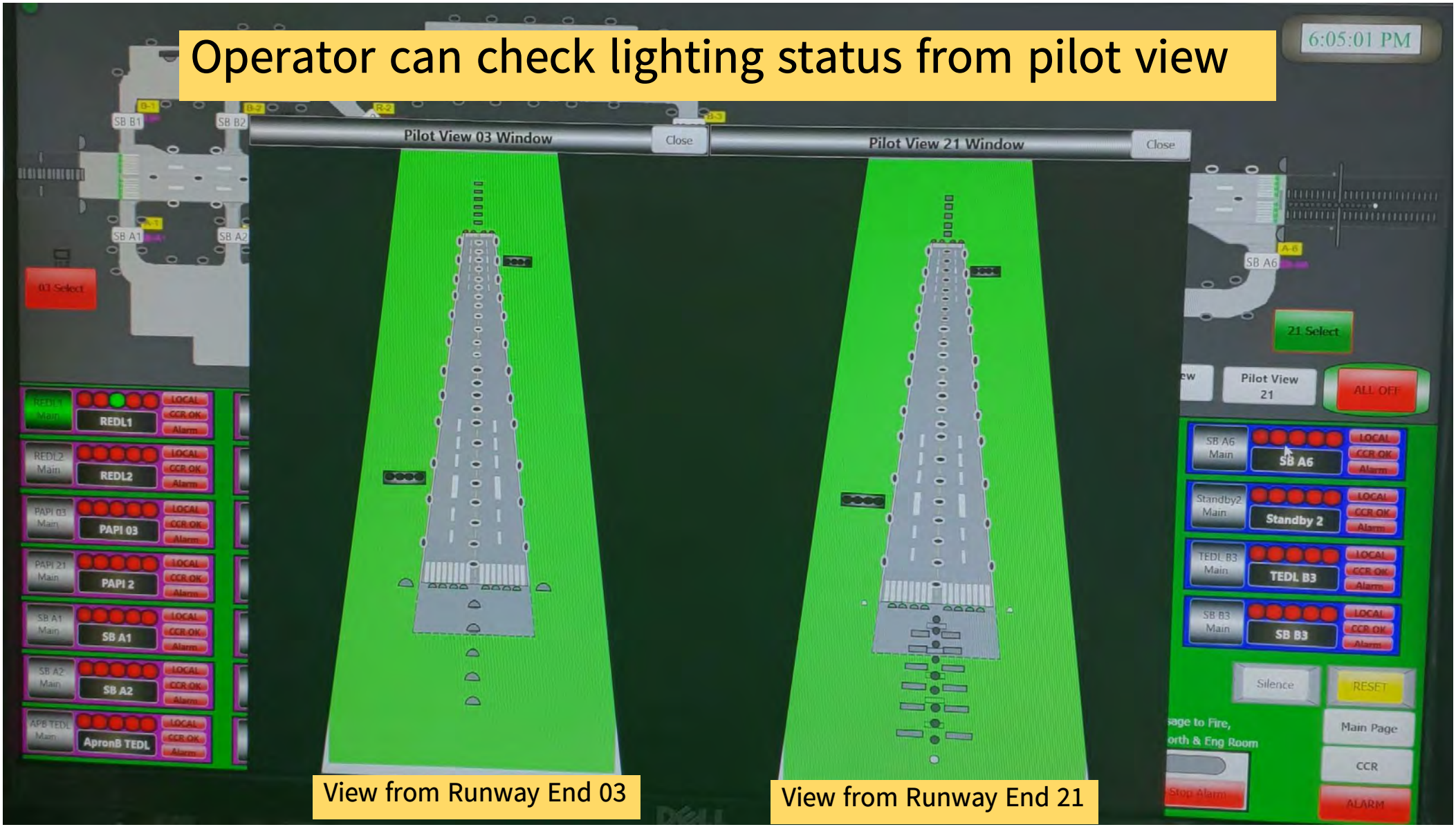
Log In View

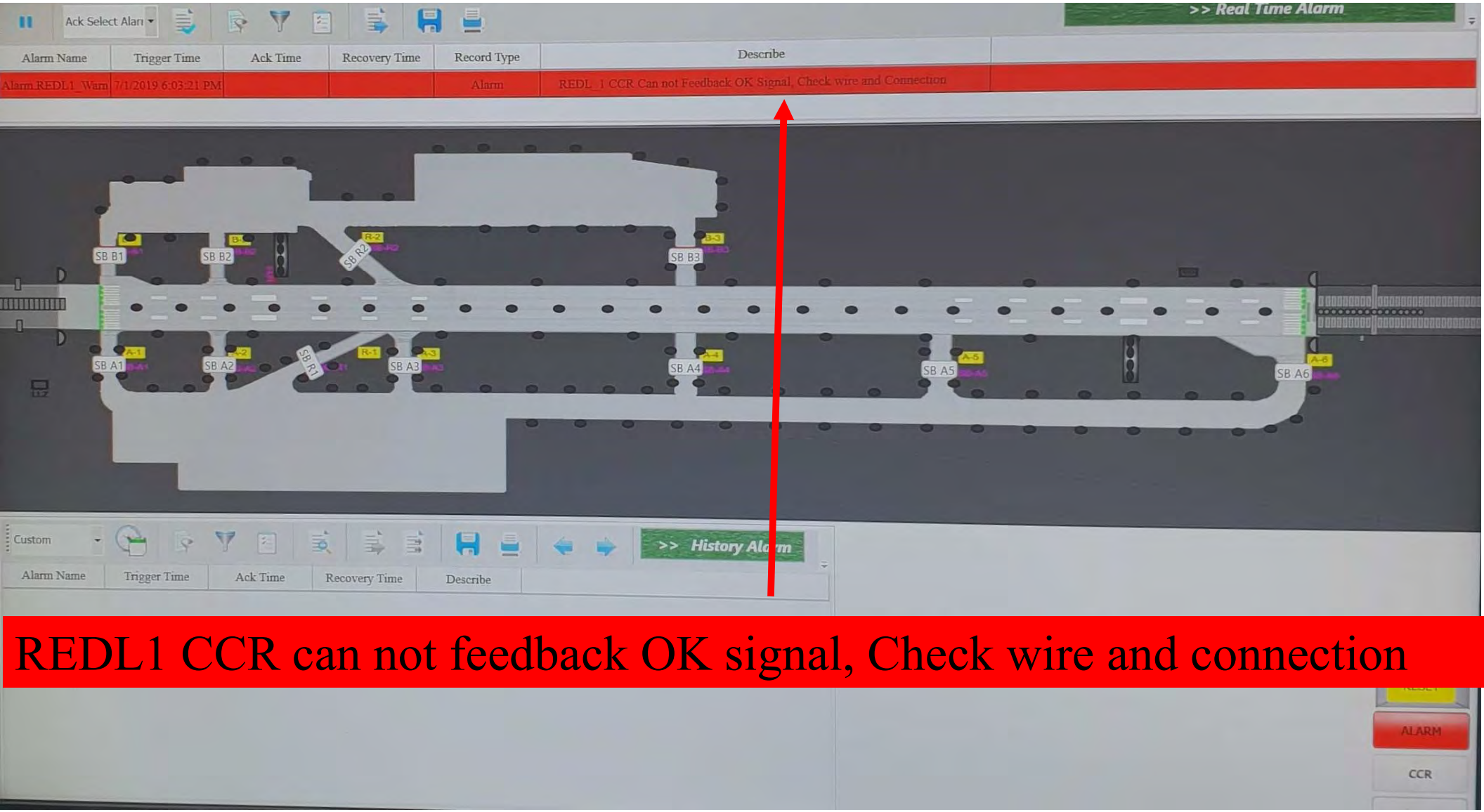

Monday, July 1, 2019
6:04:42 PM
Yangon International Airport
Aeronautical Ground Lighting
Welcome : :
SystemAdmin
Log in
Log out
Operation
Maintain
With different password
Operator can log in to operation mode
Engineer can log in to Maintain mode

Operator can operate easily

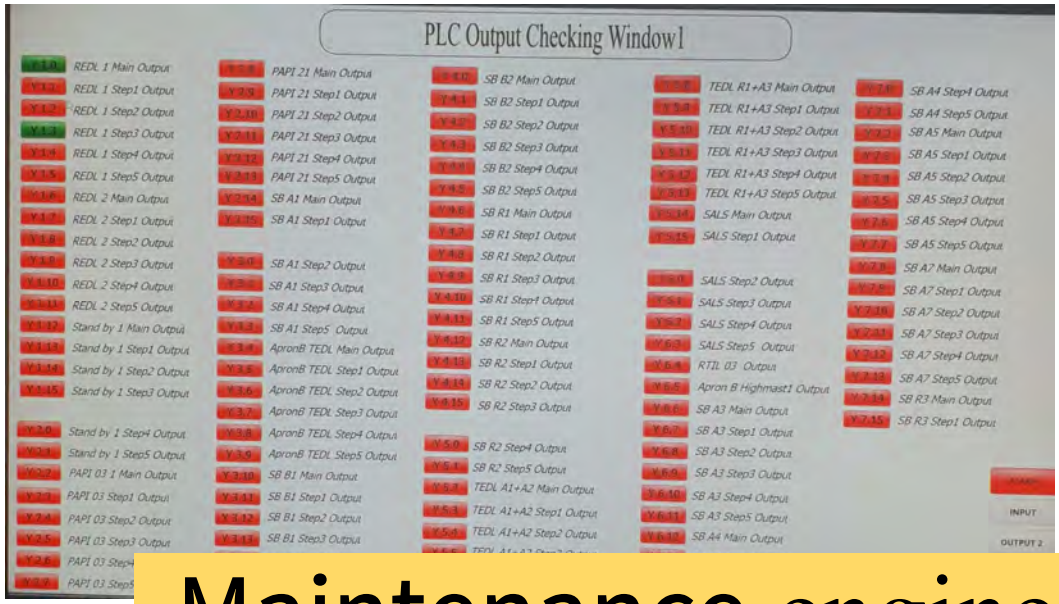


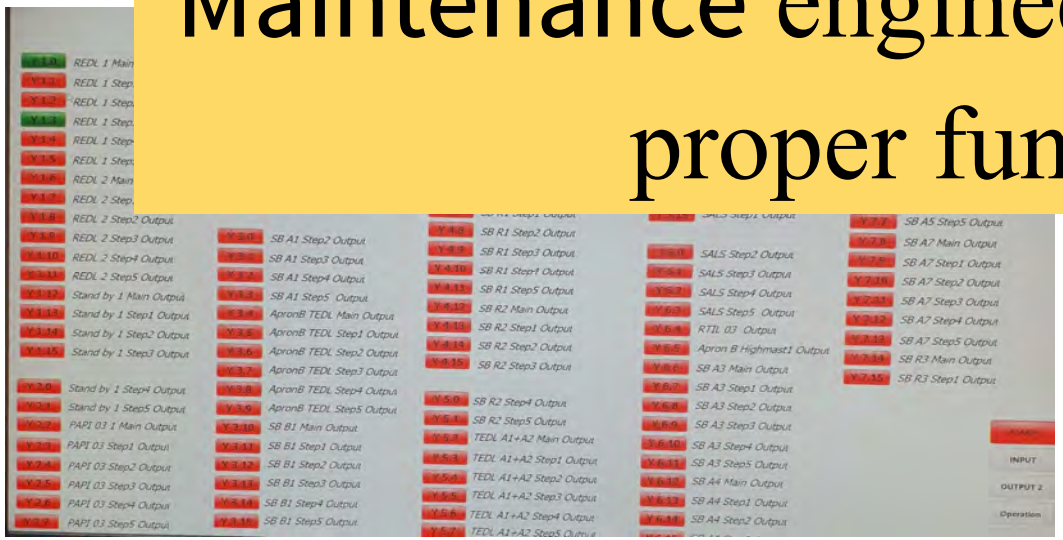
Operator can check lighting status from pilot view





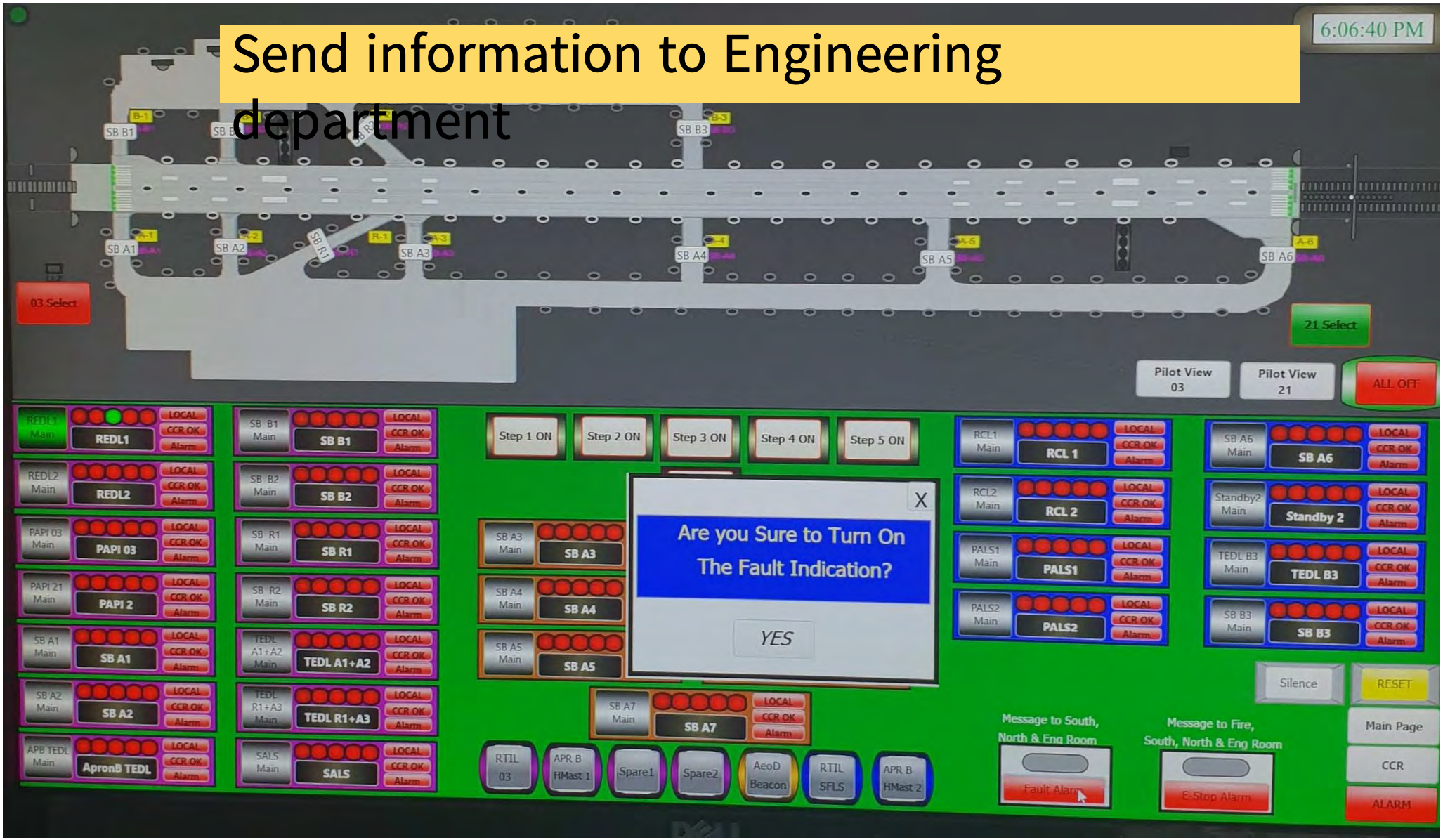
REDL1 CCR can not feedback OK signal, Check wire and connection



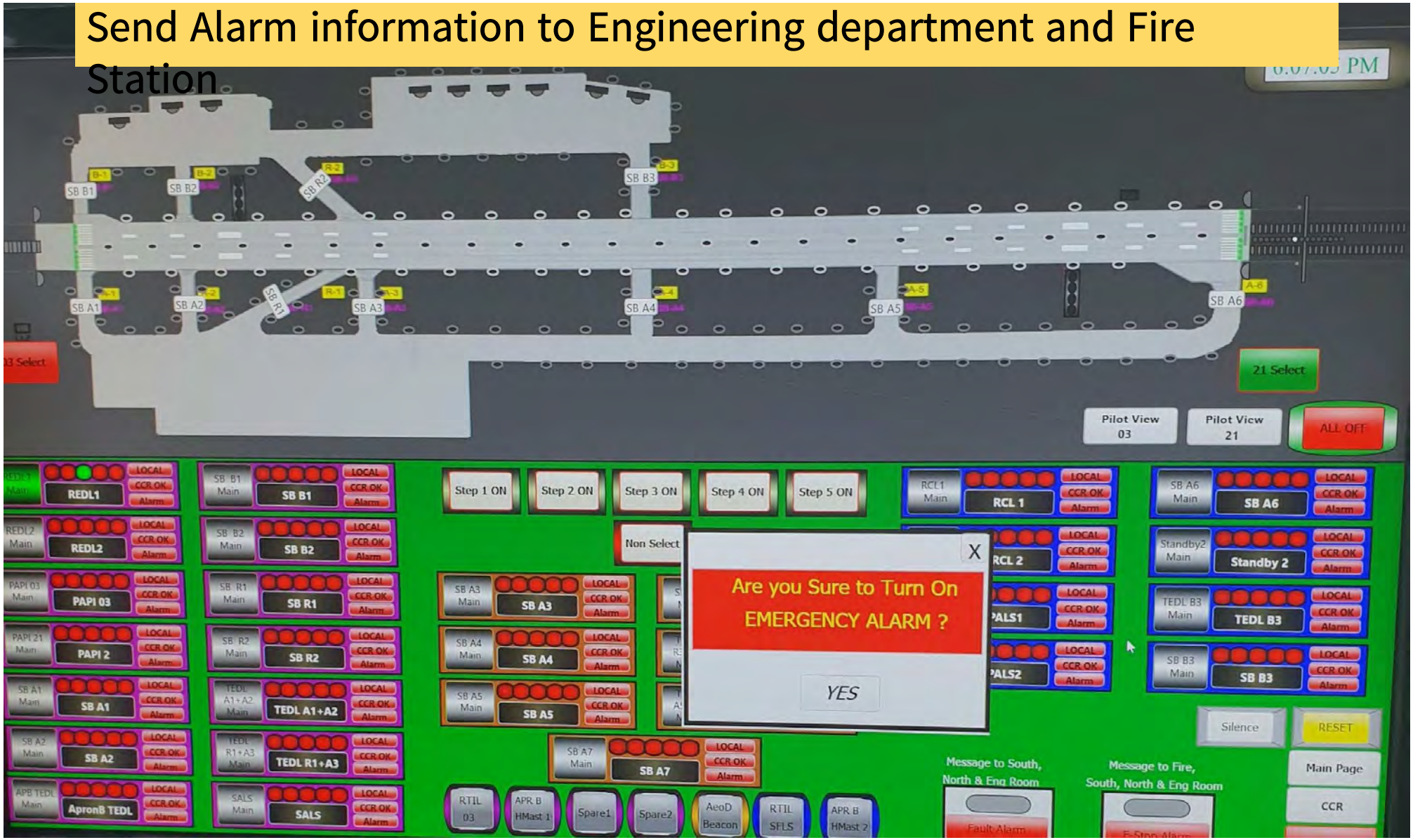


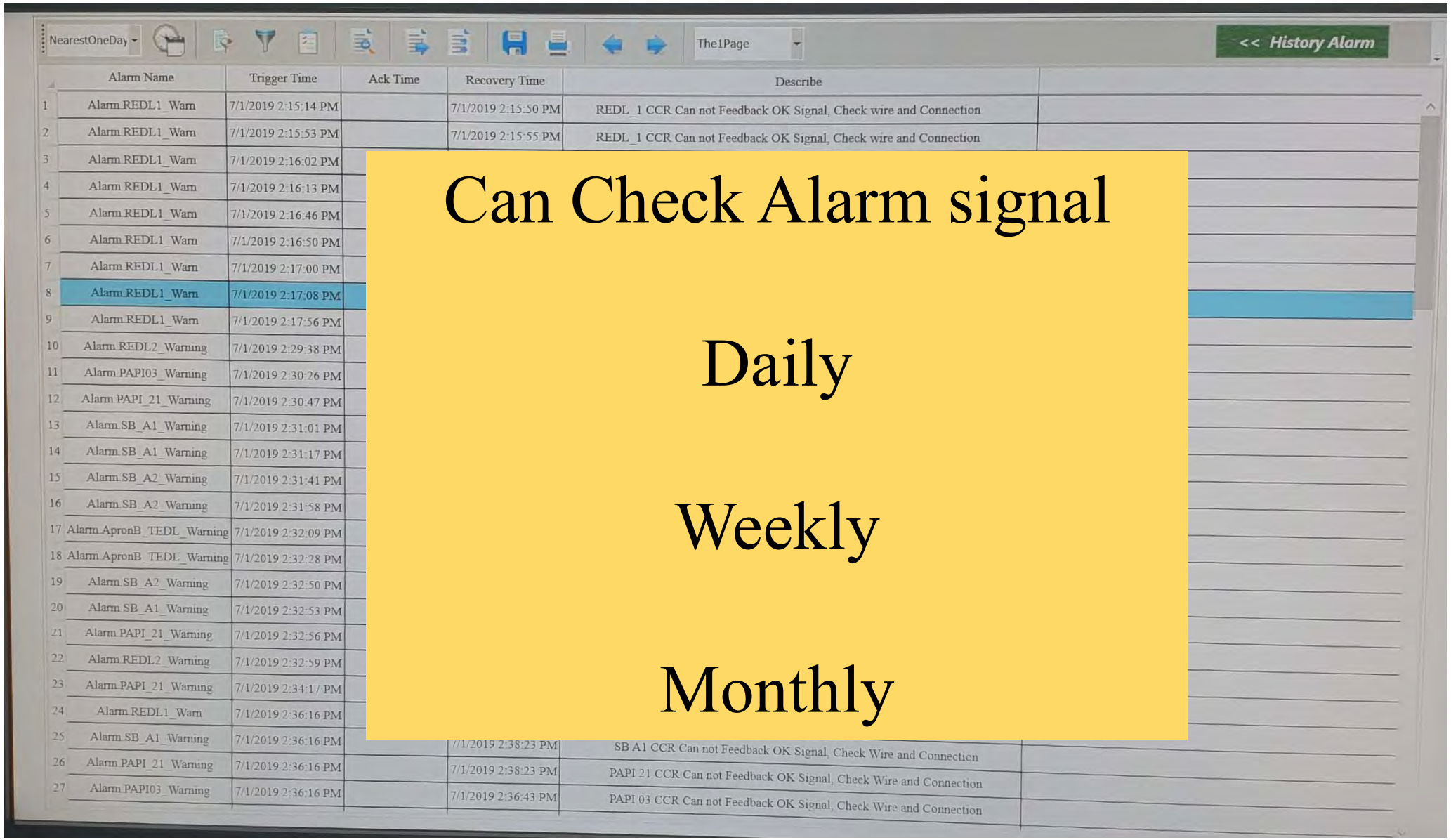
Maintenance engineer can easily check that proper function or not.

Send information to Engineering department



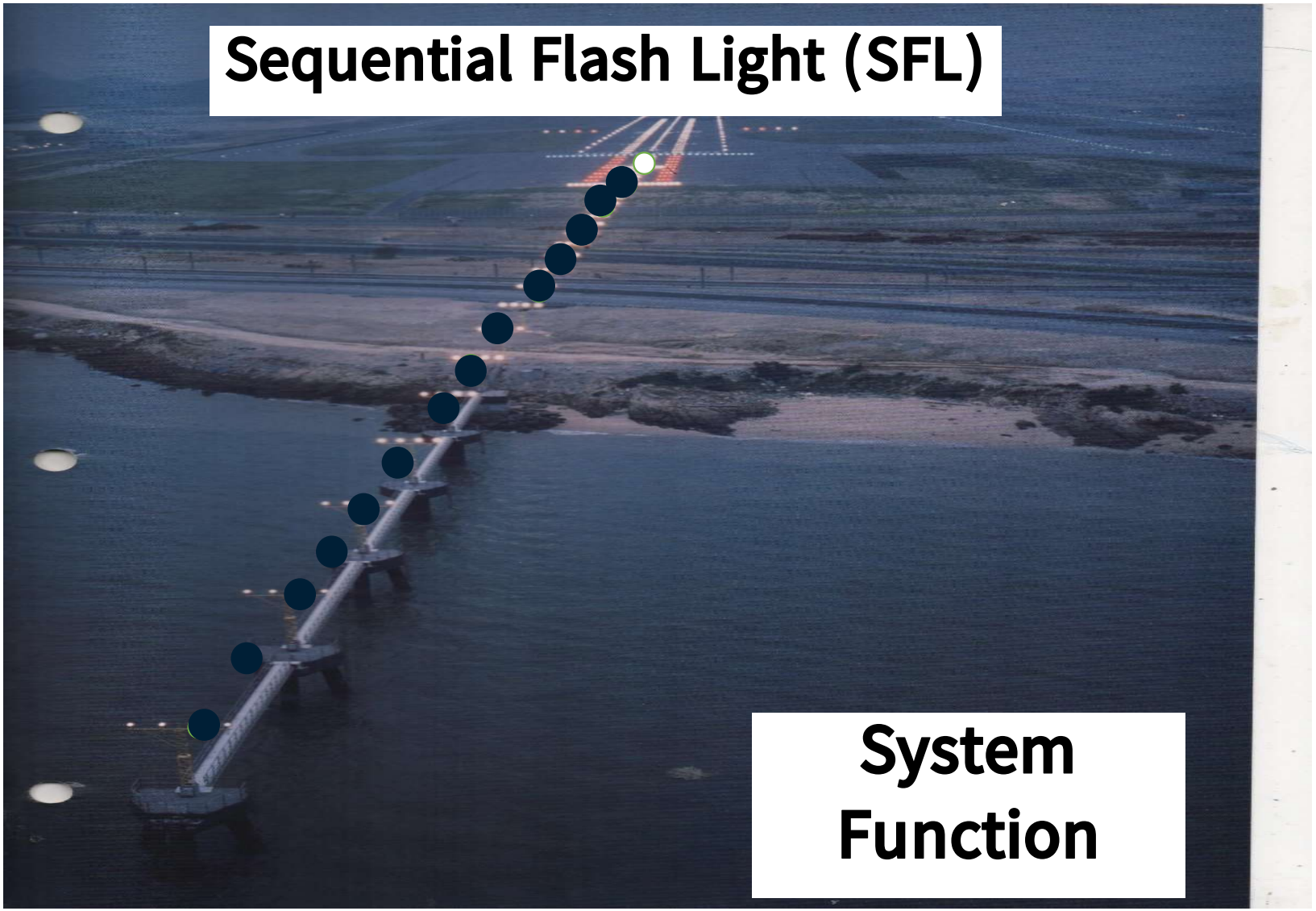
Send Alarm information to Engineering department and Fire Station

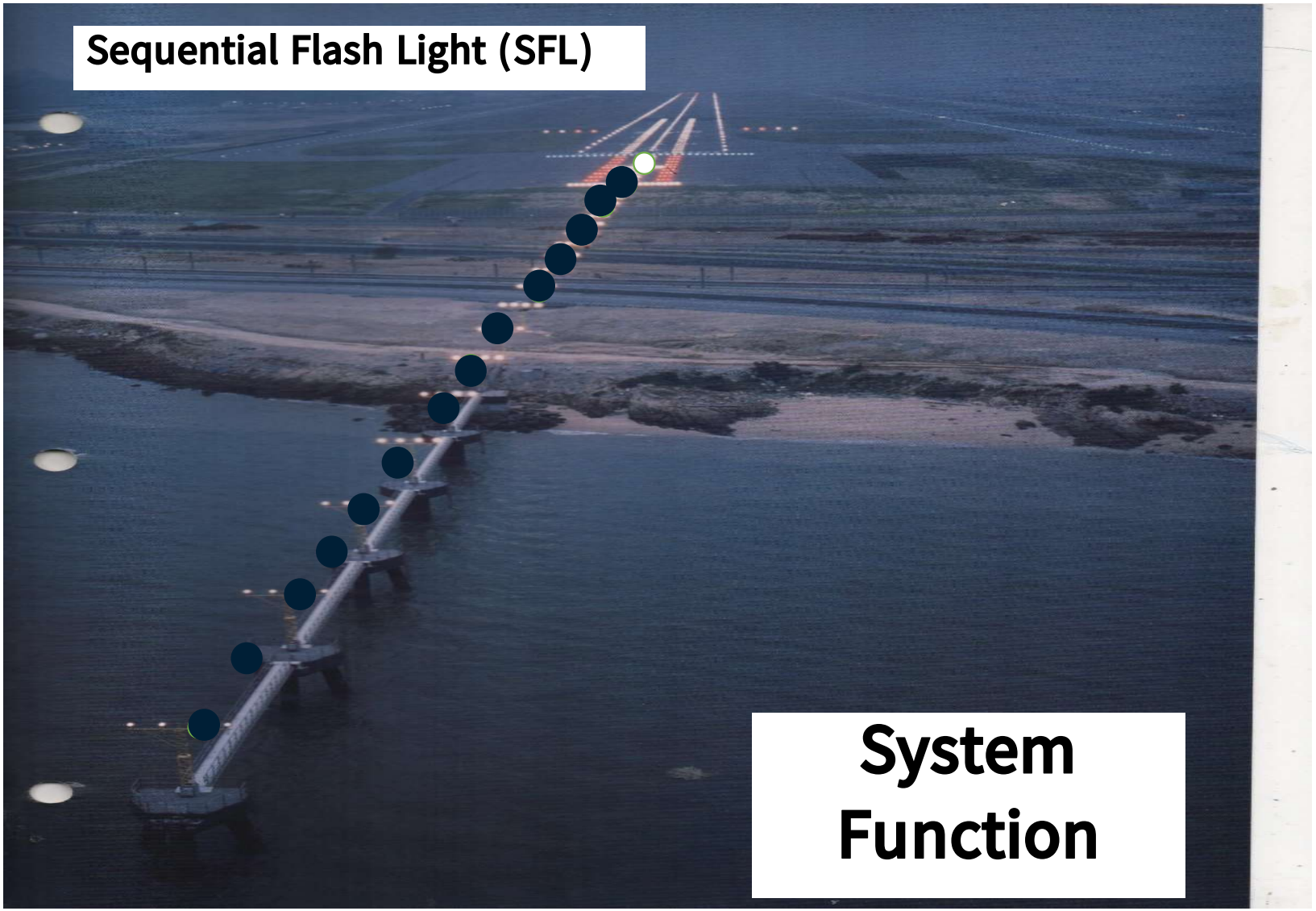


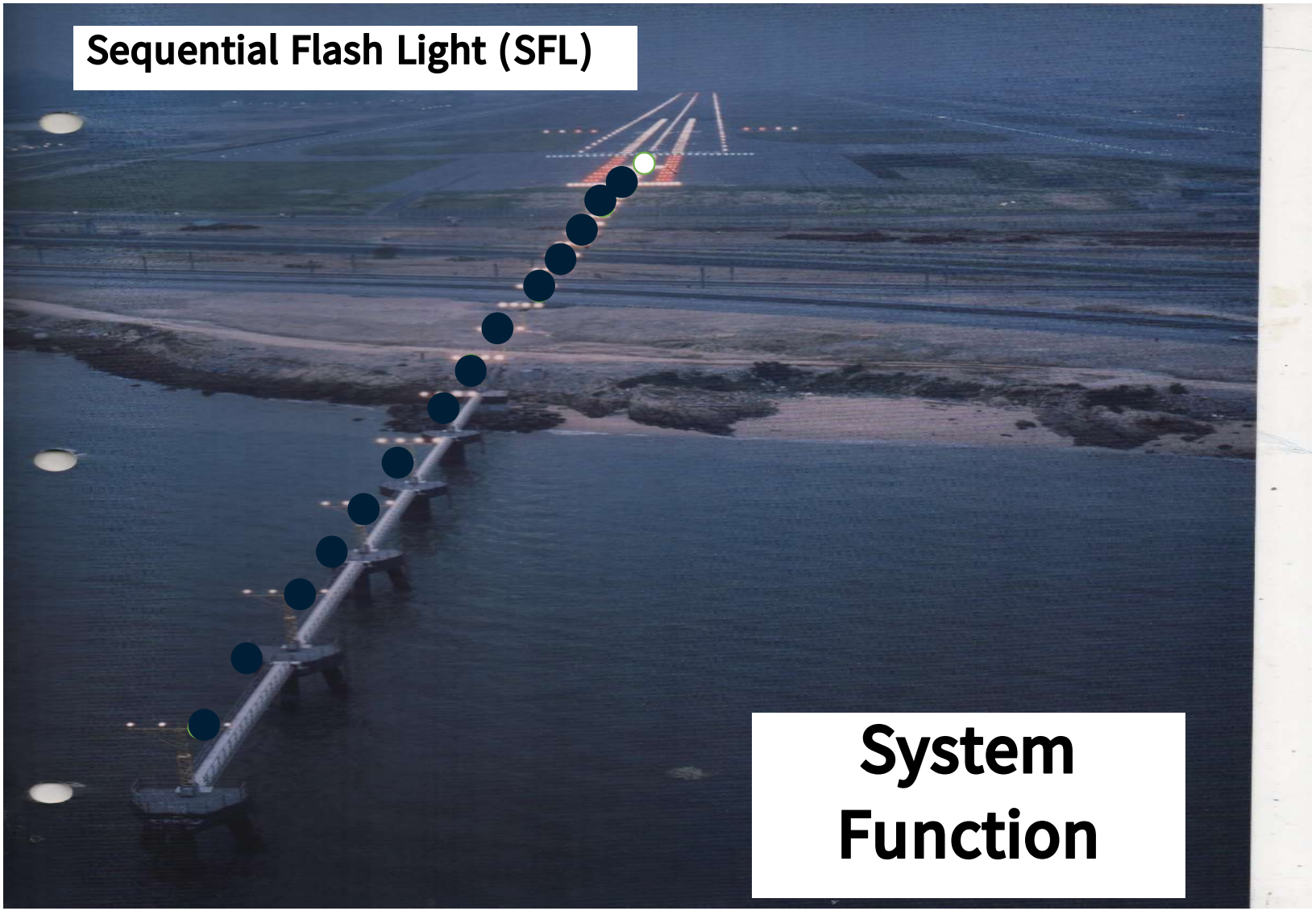

NearestOneDay
The1Page
<< History Alarm
Alarm Name
Trigger Time
Ack Time
Recovery Time
Describe
1 Alarm REDL1_Warn 7/1/2019 2:15:14 PM 7/1/2019 2:15:50 PM REDL_1 CCR Can not Feedback OK Signal, Check wire and Connection
2 Alarm REDL1_Warn 7/1/2019 2:15:53 PM 7/1/2019 2:15:55 PM REDL_1 CCR Can not Feedback OK Signal, Check wire and Connection
3 Alarm REDL1_Warn 7/1/2019 2:16:02 PM
4 Alarm REDL1_Warn 7/1/2019 2:16:13 PM
5 Alarm REDL1_Warn 7/1/2019 2:16:46 PM
6 Alarm REDL1_Warn 7/1/2019 2:16:50 PM
7 Alarm REDL1_Warn 7/1/2019 2:17:00 PM
8 Alarm REDL1_Warn 7/1/2019 2:17:08 PM
9 Alarm REDL1_Warn 7/1/2019 2:17:56 PM
10 Alarm REDL2_Warning 7/1/2019 2:29:38 PM
11 Alarm PAPI03_Warning 7/1/2019 2:30:26 PM
12 Alarm PAPI_21_Warning 7/1/2019 2:30:47 PM
13 Alarm SB_A1_Warning 7/1/2019 2:31:01 PM
14 Alarm SB_A1_Warning 7/1/2019 2:31:17 PM
15 Alarm SB_A2_Warning 7/1/2019 2:31:41 PM
16 Alarm SB_A2_Warning 7/1/2019 2:31:58 PM
17 Alarm ApronB_TEDL_Warning 7/1/2019 2:32:09 PM
18 Alarm ApronB_TEDL_Warning 7/1/2019 2:32:28 PM
19 Alarm SB_A2_Warning 7/1/2019 2:32:50 PM
20 Alarm SB_A1_Warning 7/1/2019 2:32:53 PM
21 Alarm PAPI_21_Warning 7/1/2019 2:32:56 PM
22 Alarm REDL2_Warning 7/1/2019 2:32:59 PM
23 Alarm PAPI_21_Warning 7/1/2019 2:34:17 PM
24 Alarm REDL1_Warn 7/1/2019 2:36:16 PM
25 Alarm SB_A1_Warning 7/1/2019 2:36:16 PM 7/1/2019 2:38:23 PM SB A1 CCR Can not Feedback OK Signal, Check Wire and Connection
26 Alarm PAPI_21_Warning 7/1/2019 2:36:16 PM 7/1/2019 2:38:23 PM PAPI 21 CCR Can not Feedback OK Signal, Check Wire and Connection
27 Alarm PAPI03_Warning 7/1/2019 2:36:16 PM 7/1/2019 2:36:43 PM PAPI 03 CCR Can not Feedback OK Signal, Check Wire and Connection
Can Check Alarm signal
Daily
Weekly
Monthly

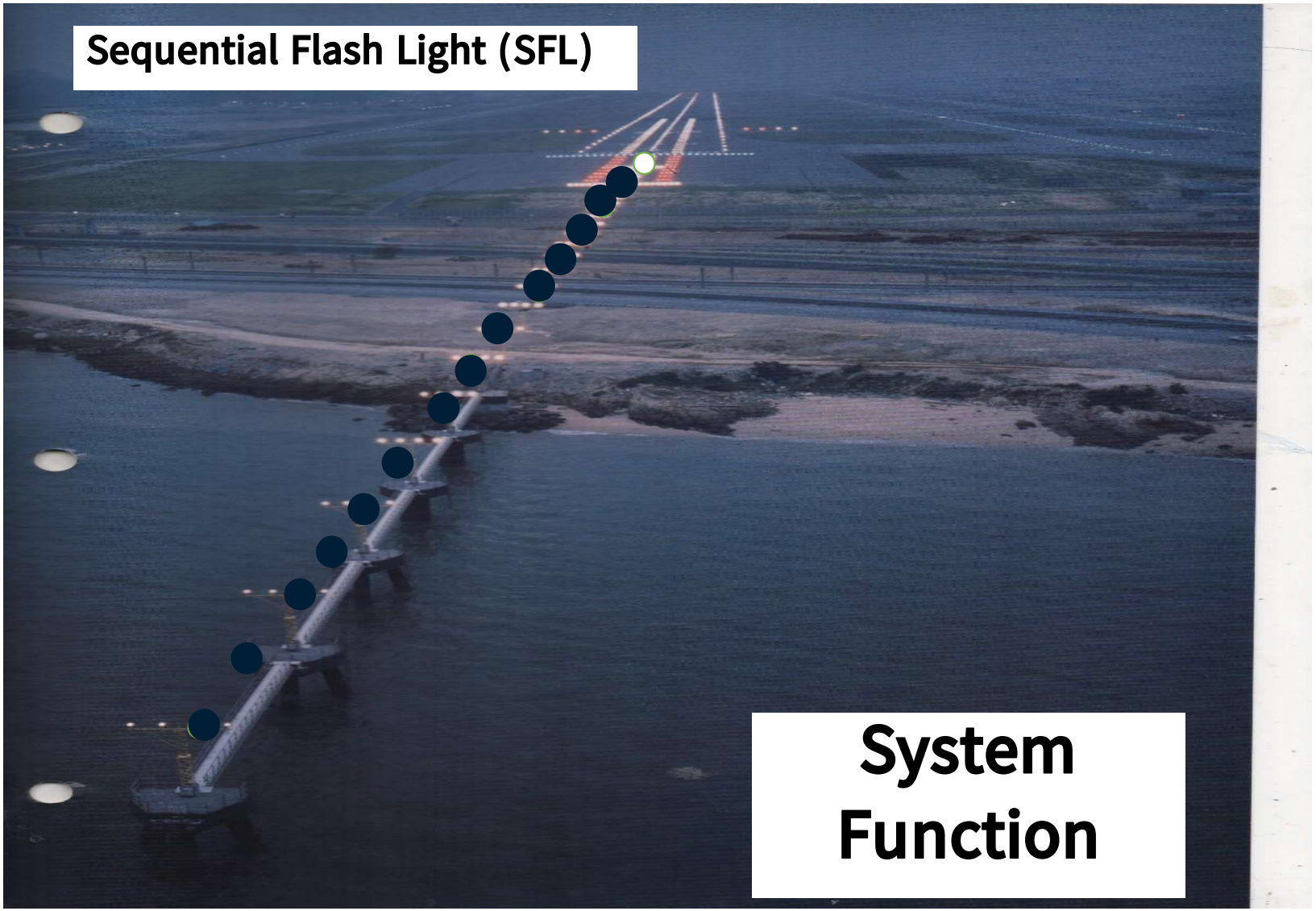
Already installed and operation

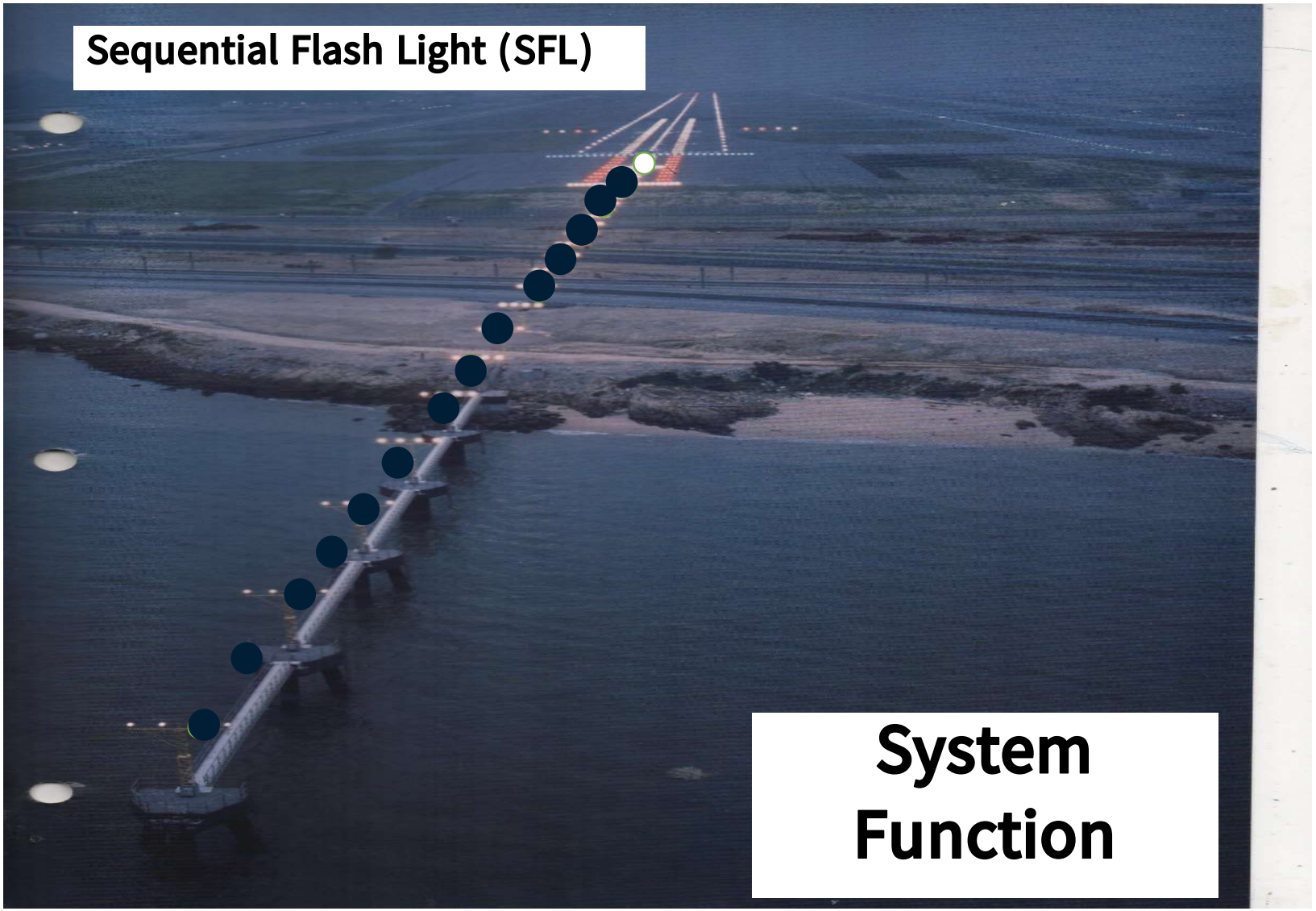
Computerized operation control is more reliable than manual control

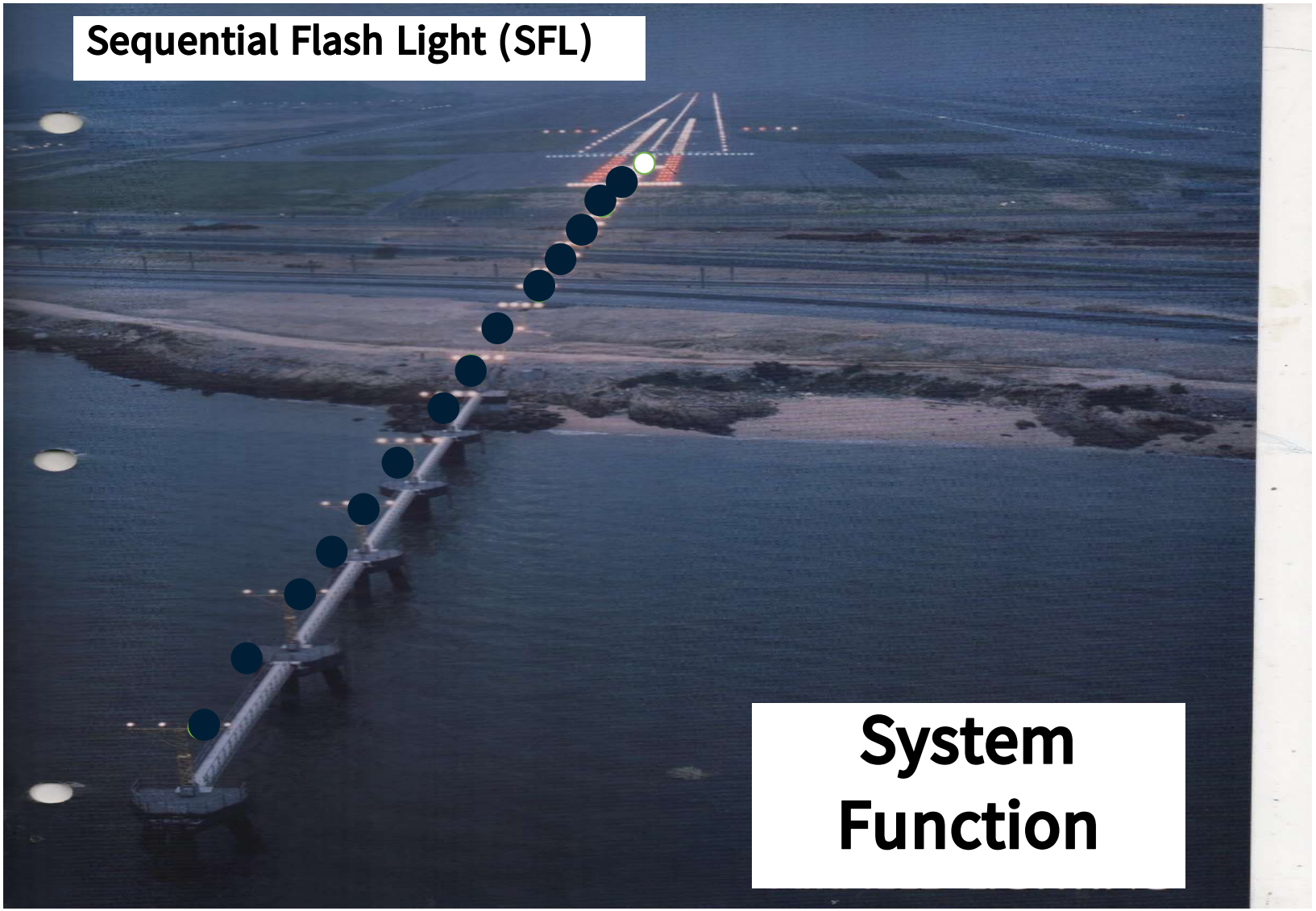

Sequential Flash Light (SFL)
System
Function

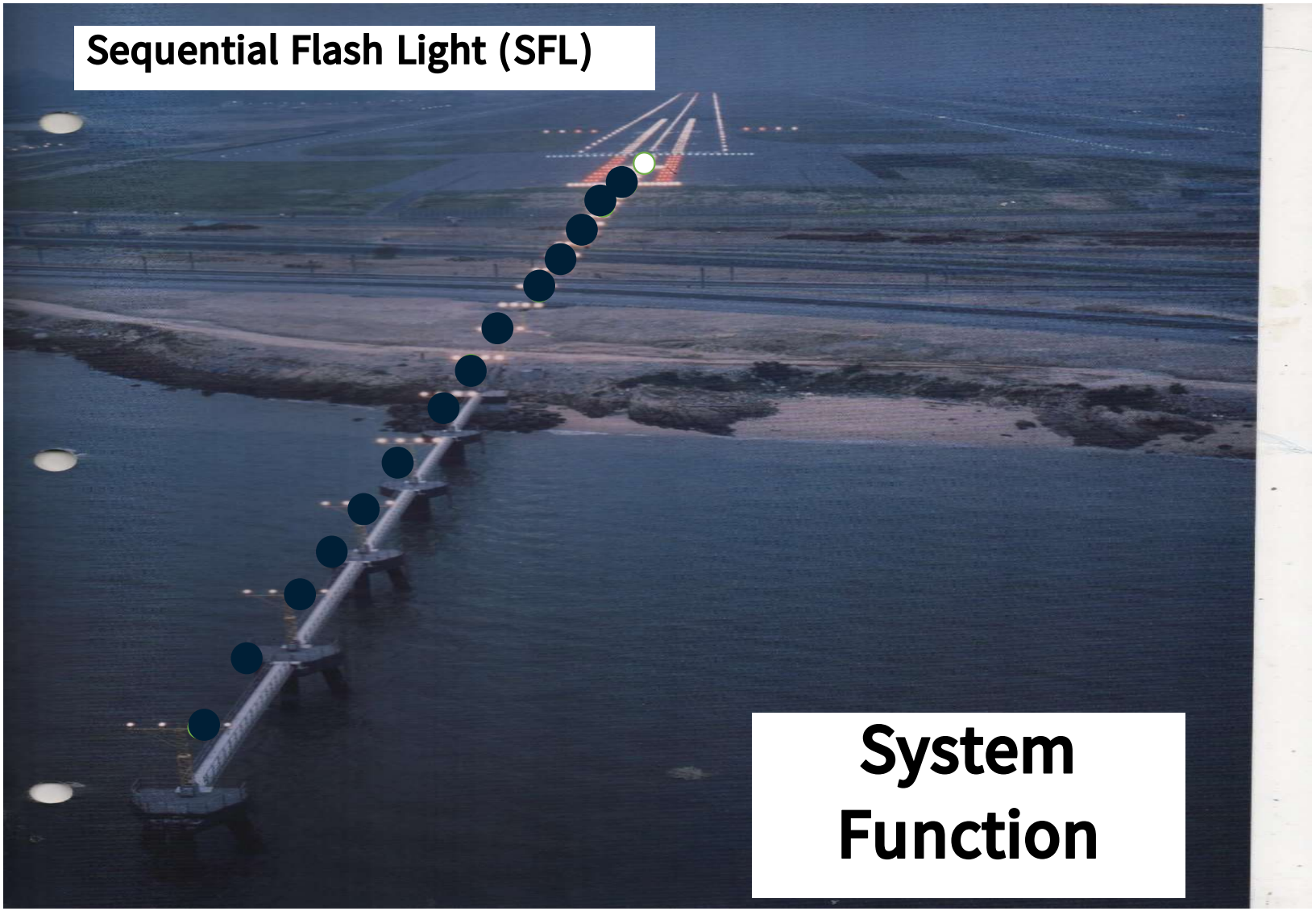

Sequential Flash Light (SFL)
System
Function


Sequential Flash Light (SFL)
System
Function


Sequential Flash Light (SFL)
System
Function


Sequential Flash Light (SFL)
System
Function


Sequential Flash Light (SFL)
System
Function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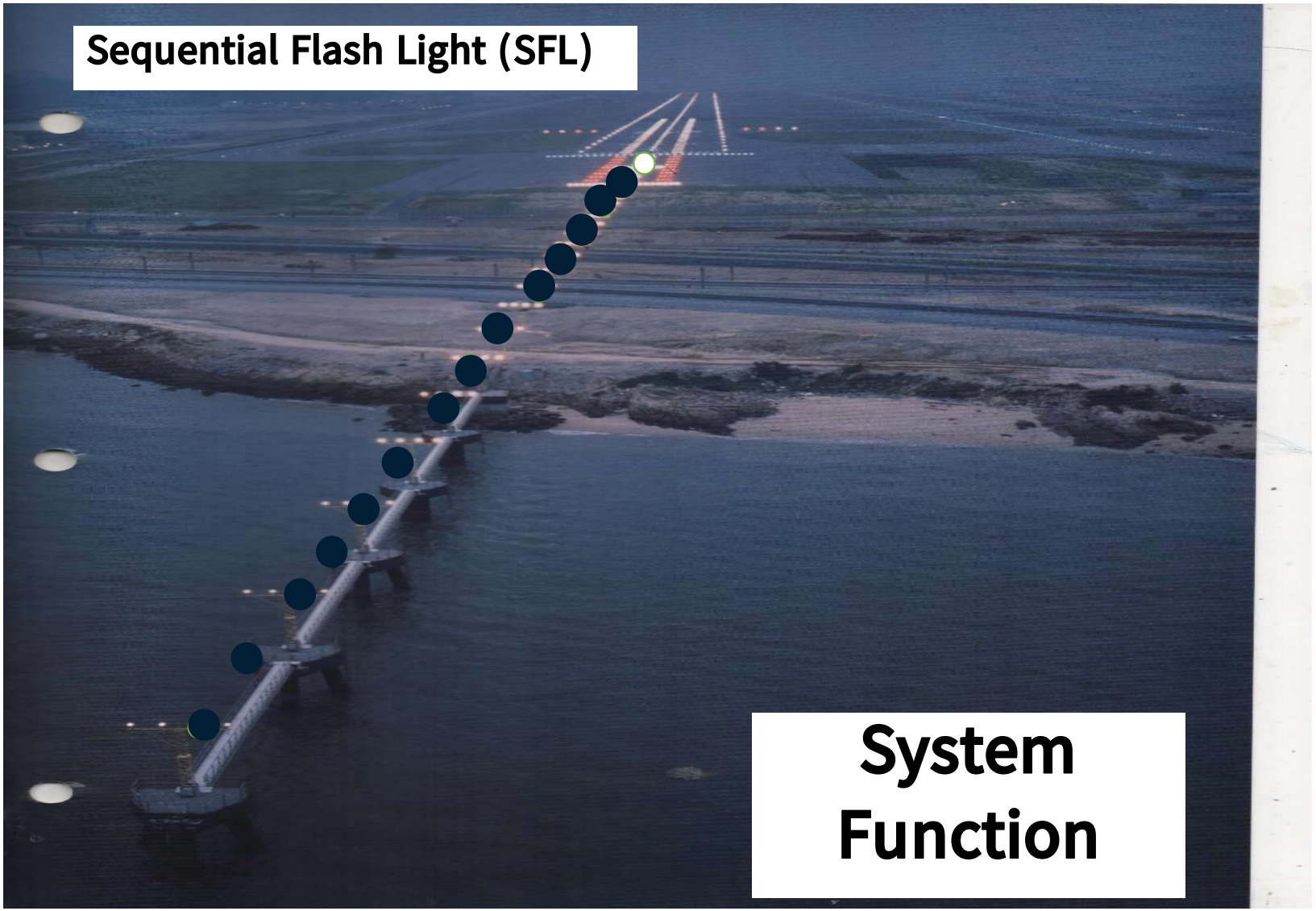
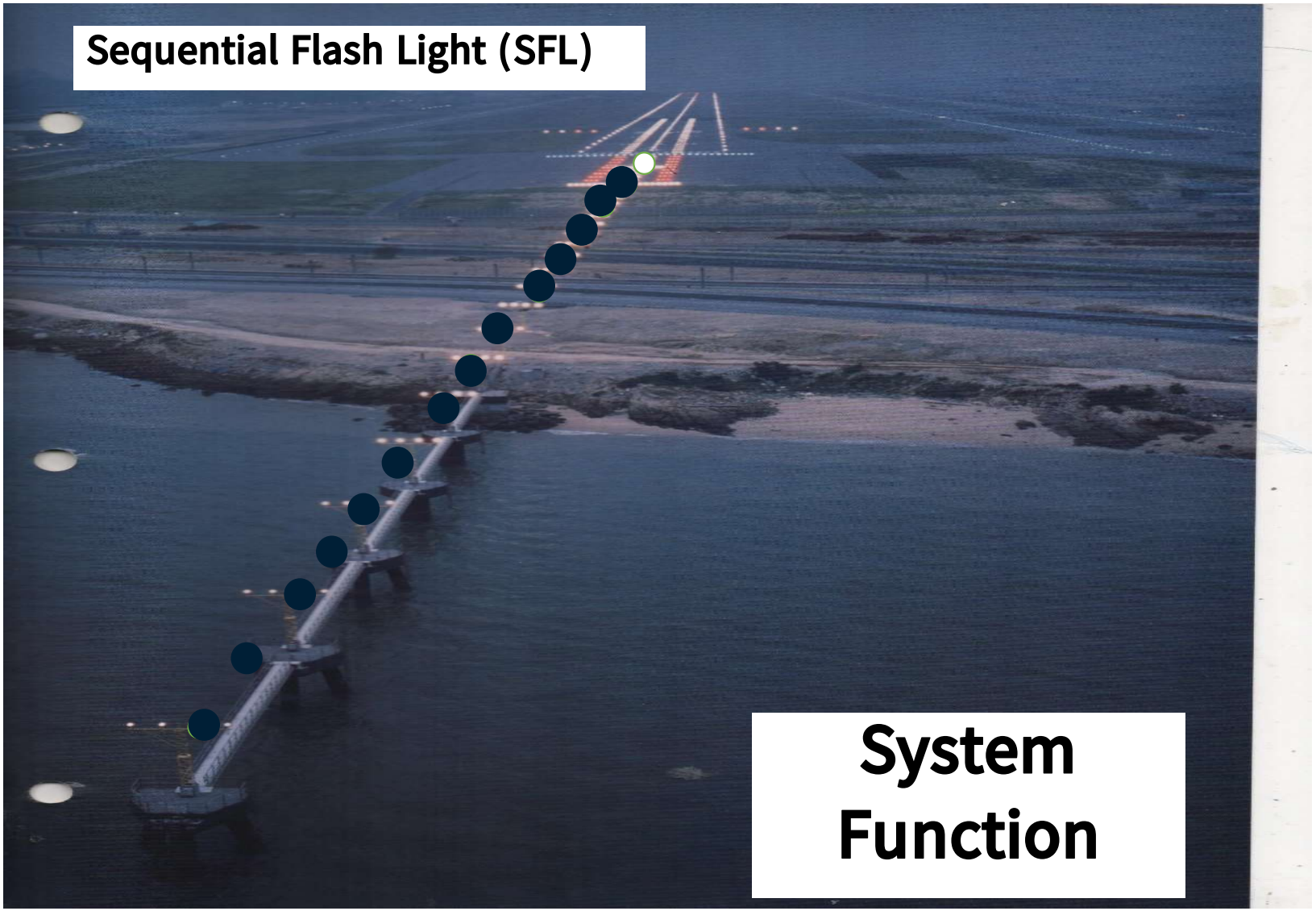
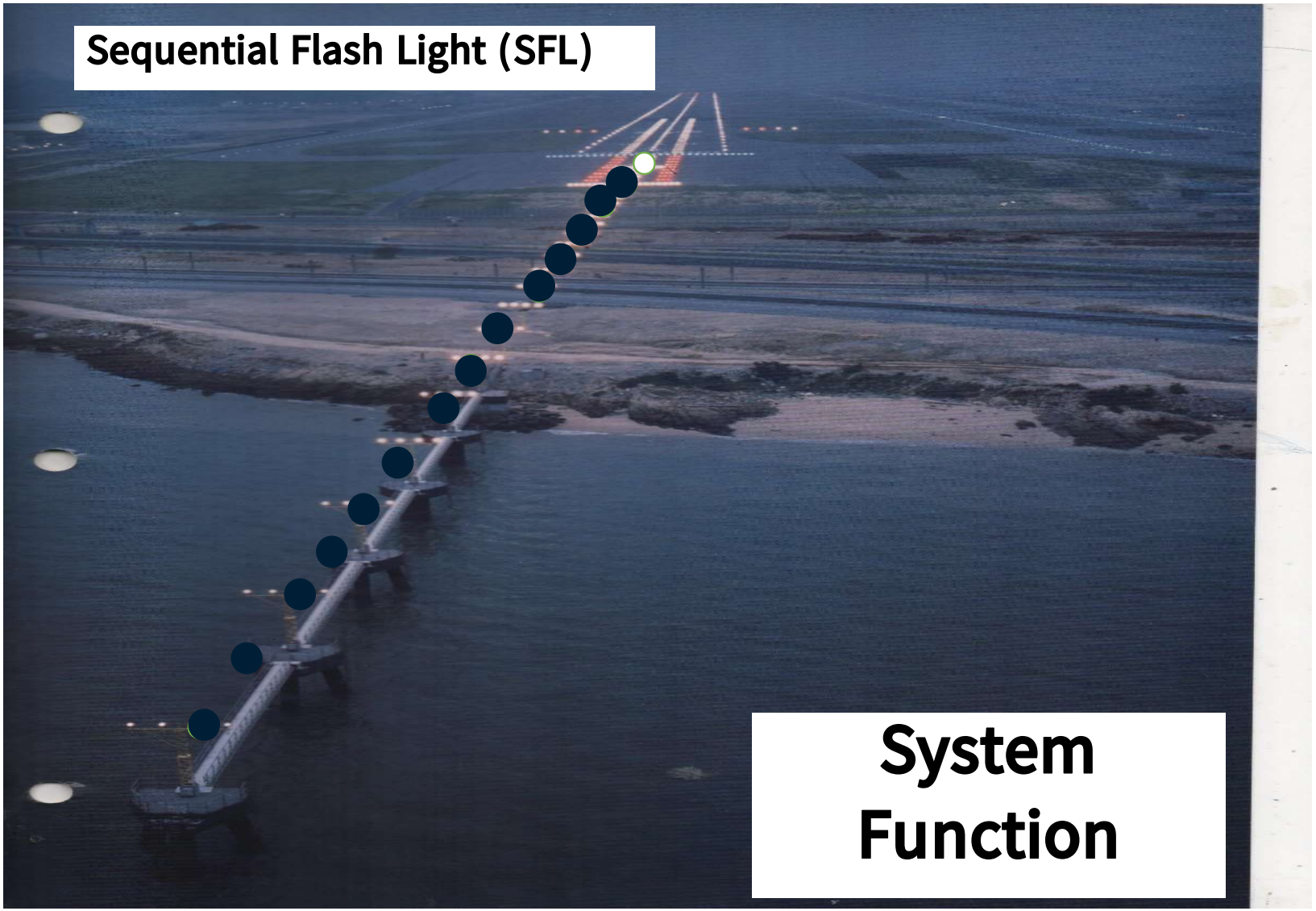
System
Function


Sequential Flash Light (SFL)
System
Function


Sequential Flash Light (SFL)
System
Function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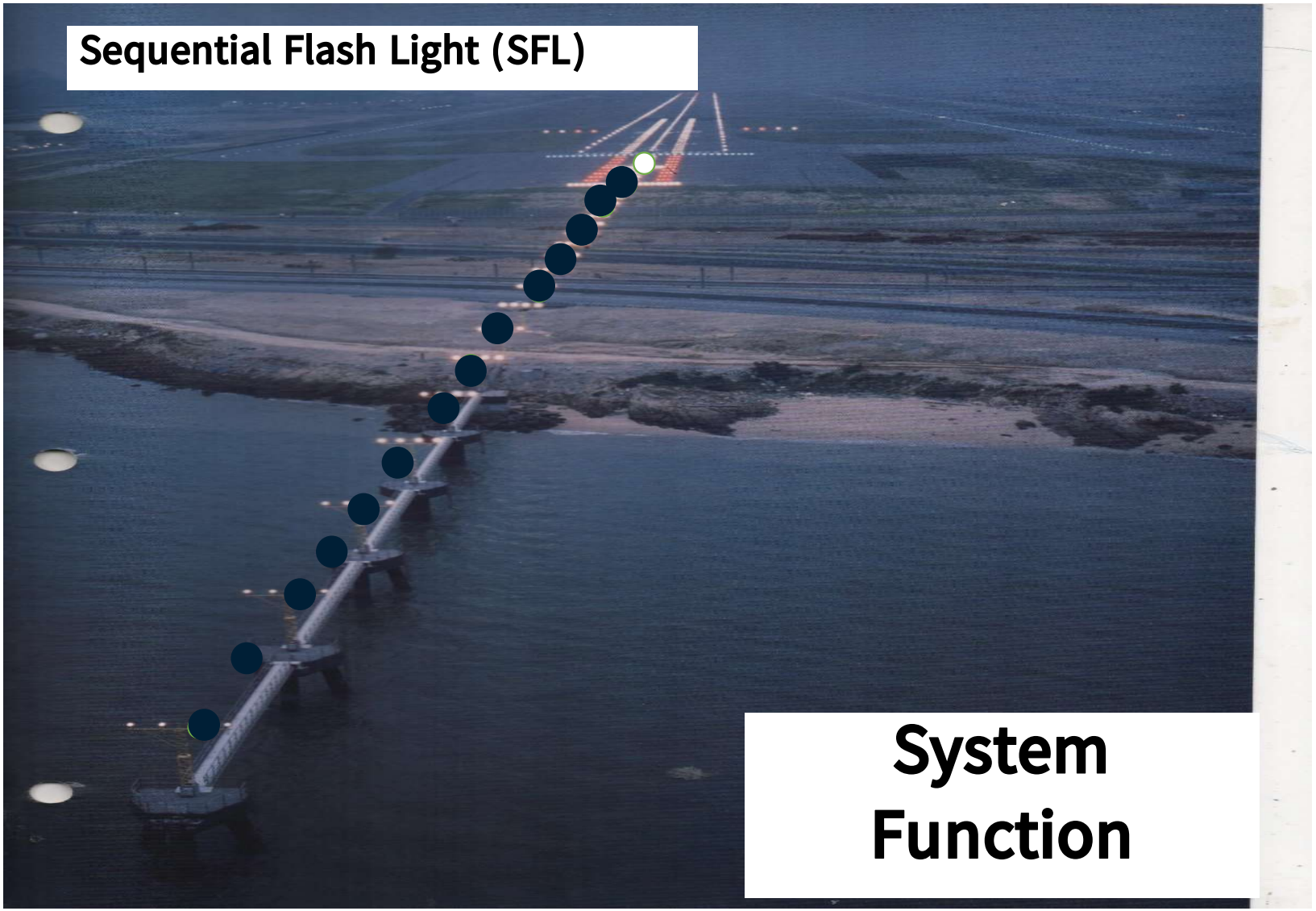
System
Function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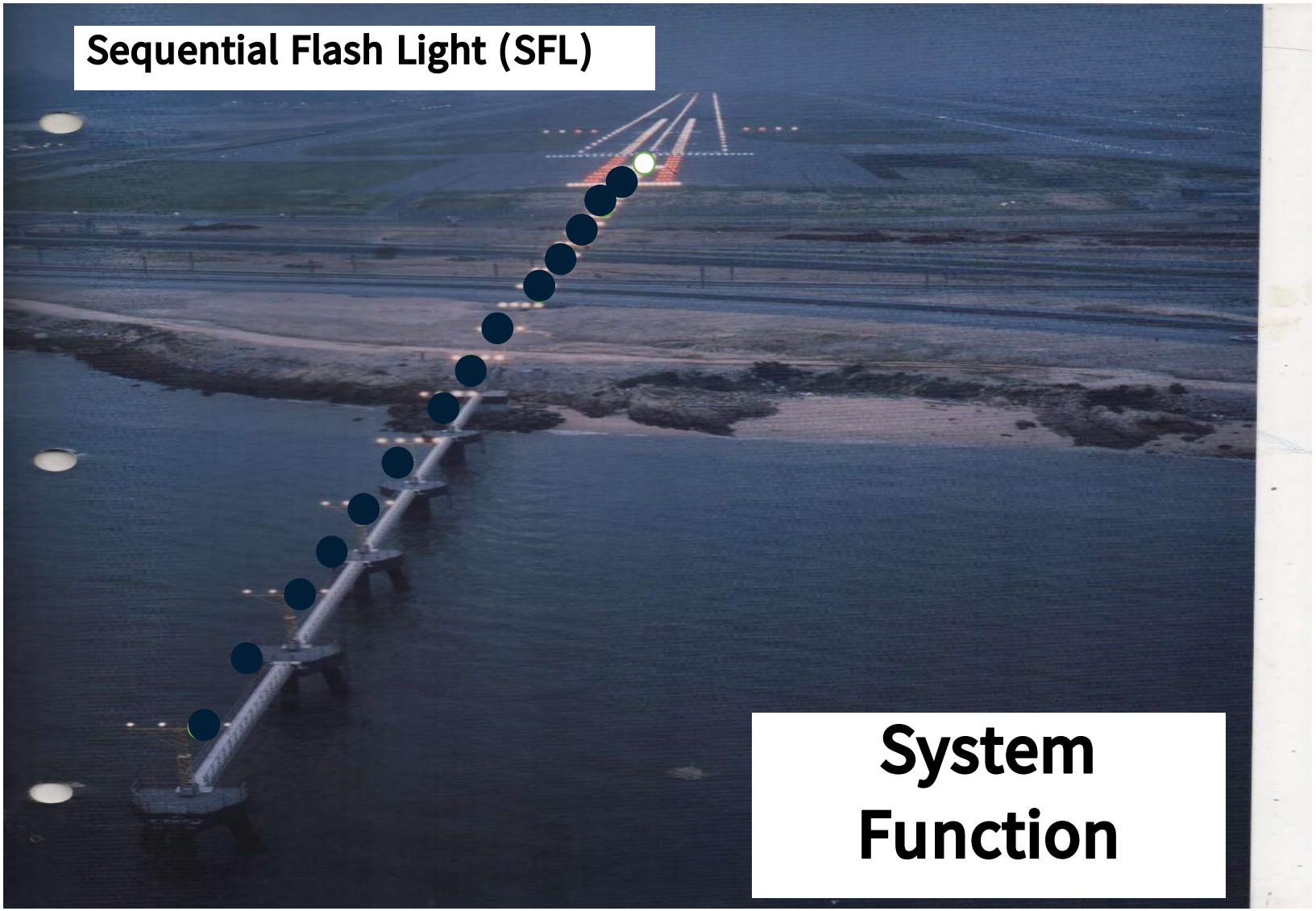
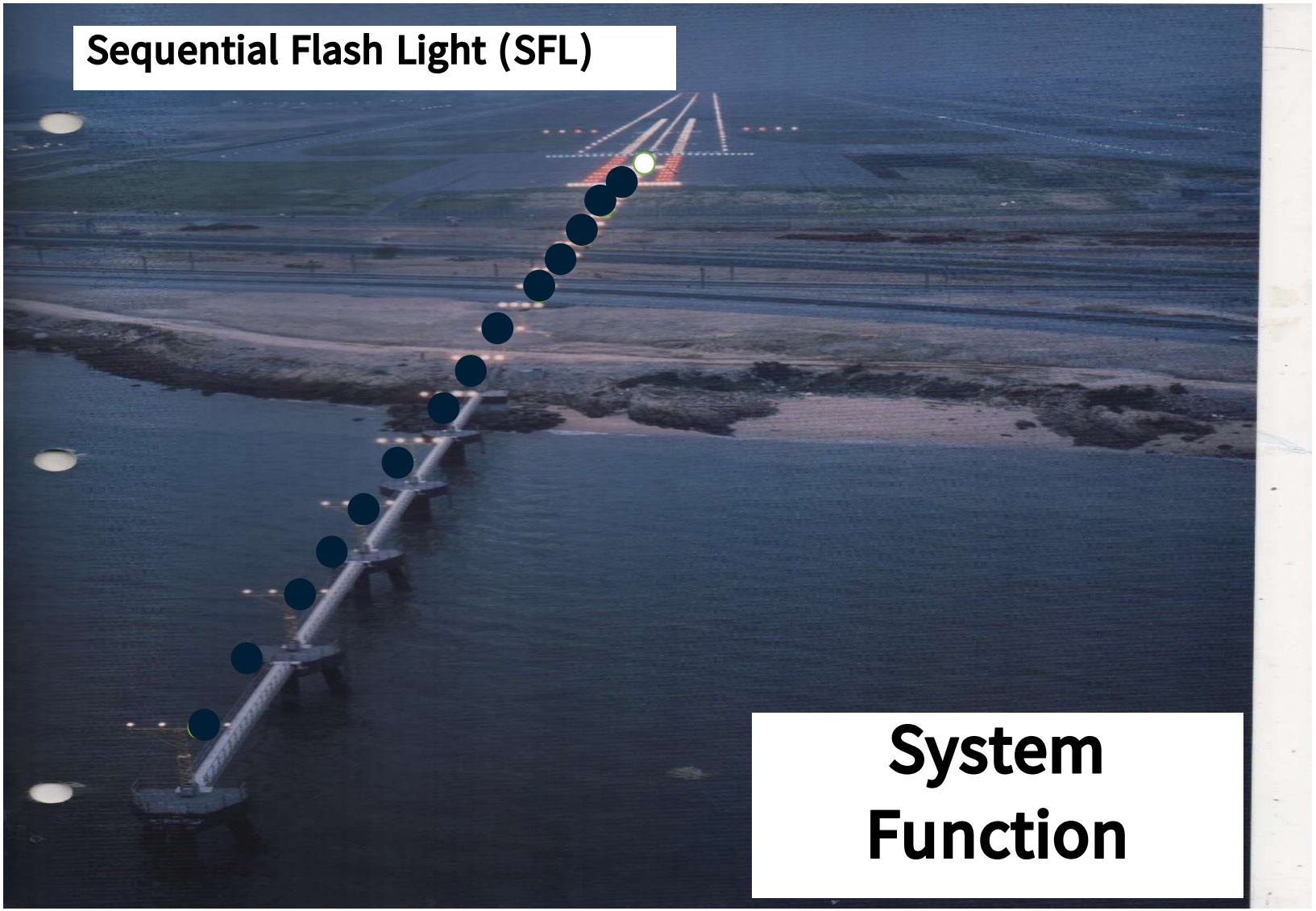
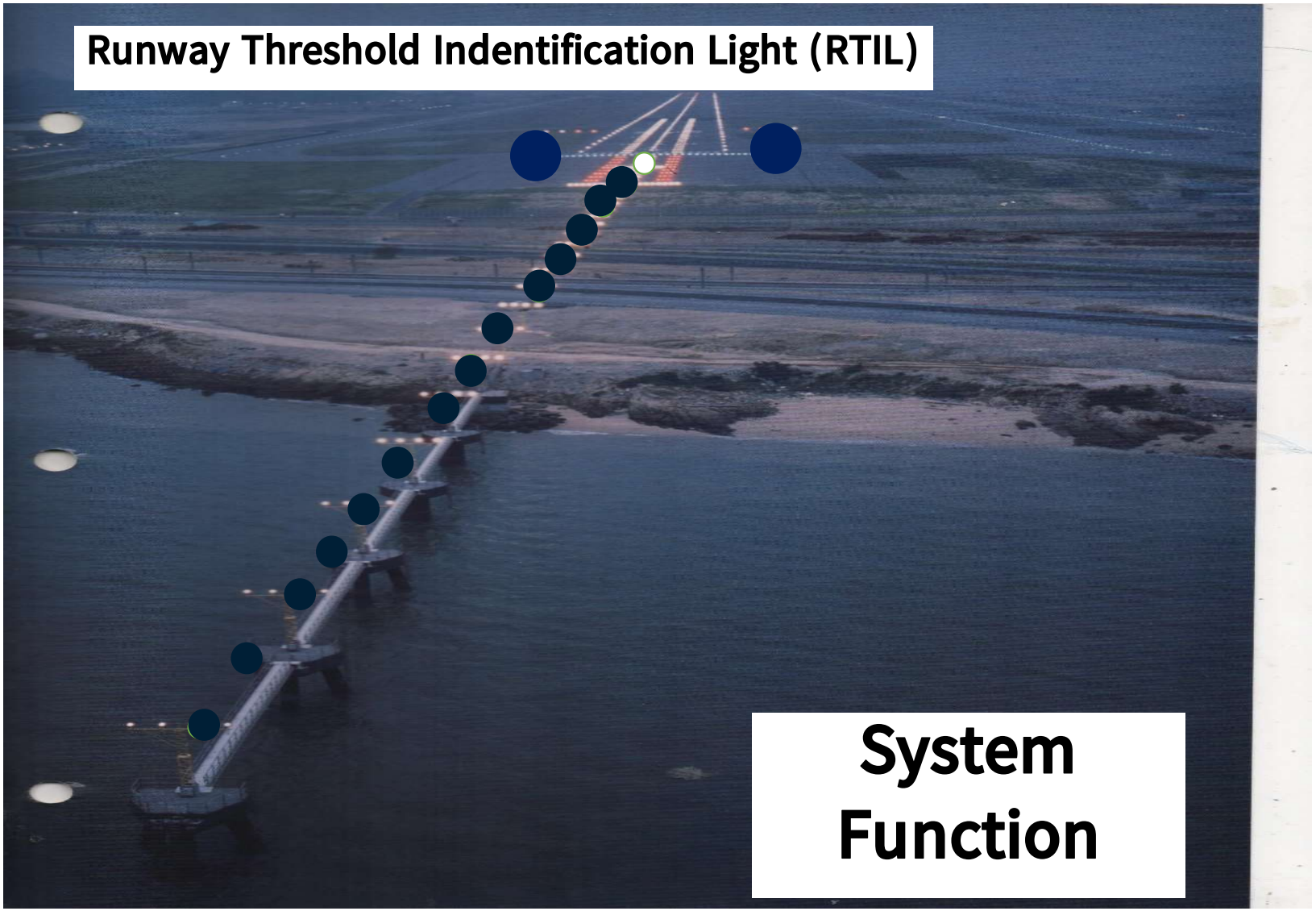
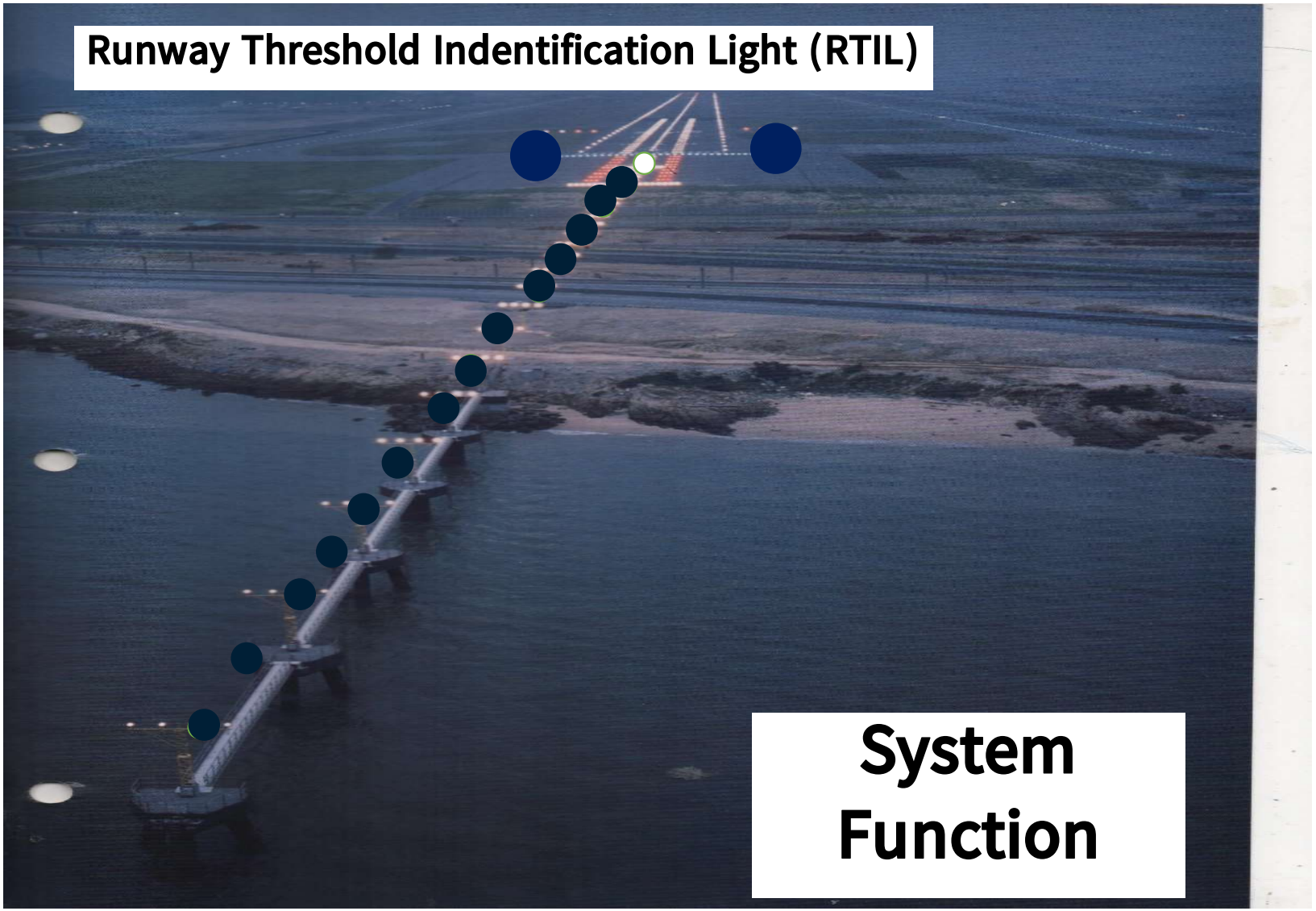
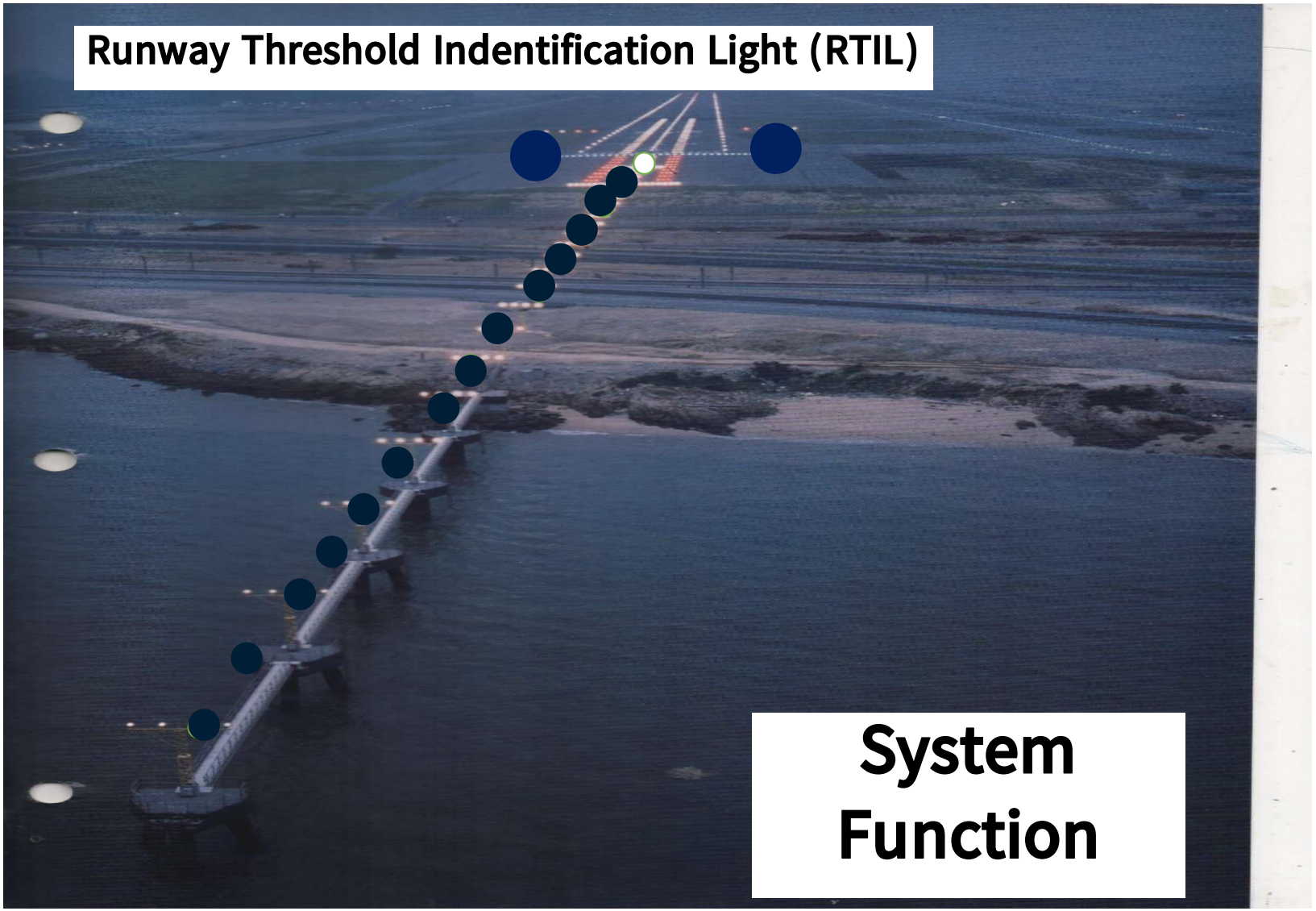
System
Function

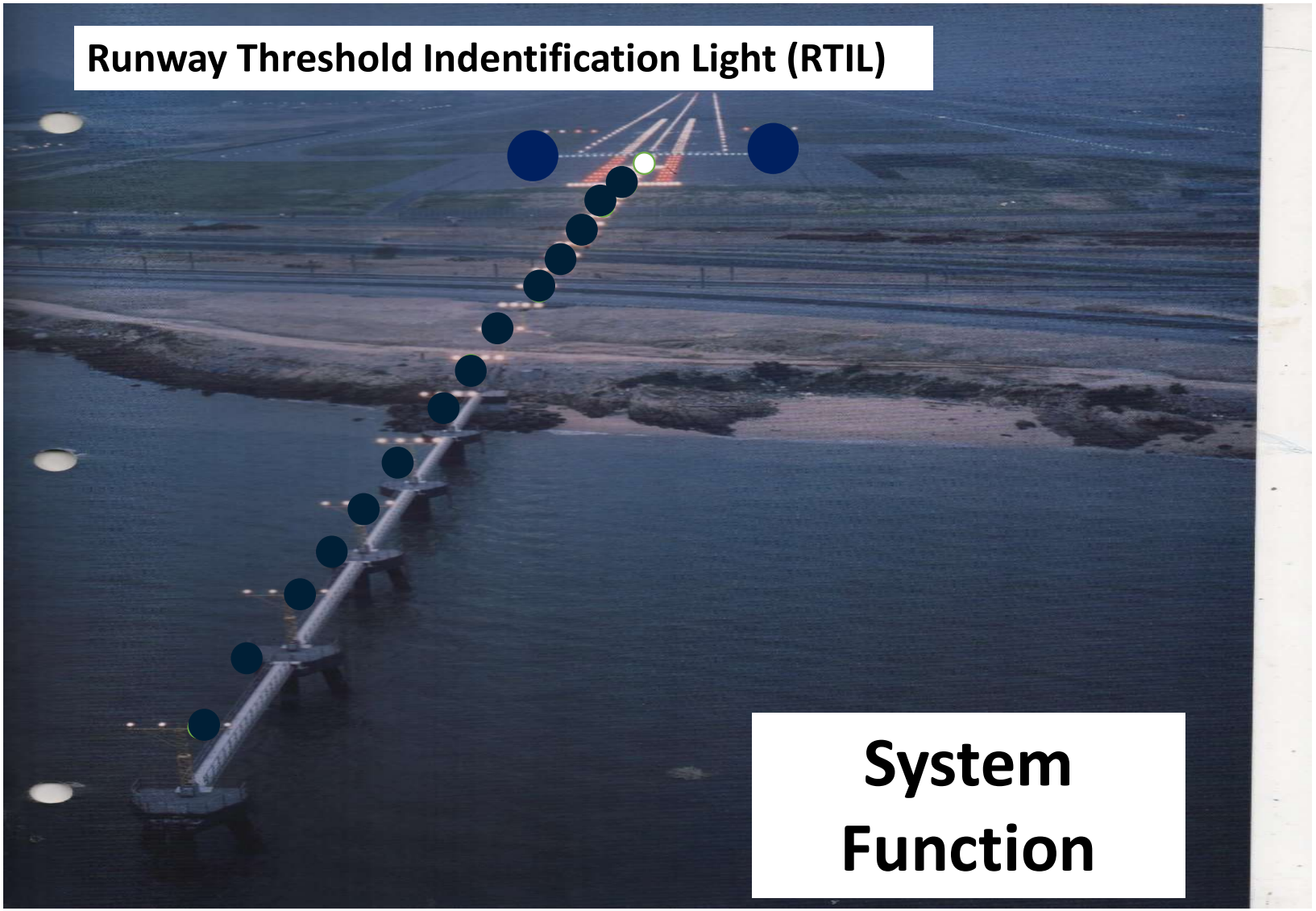

Sequential Flash Light (SFL)
System
Function

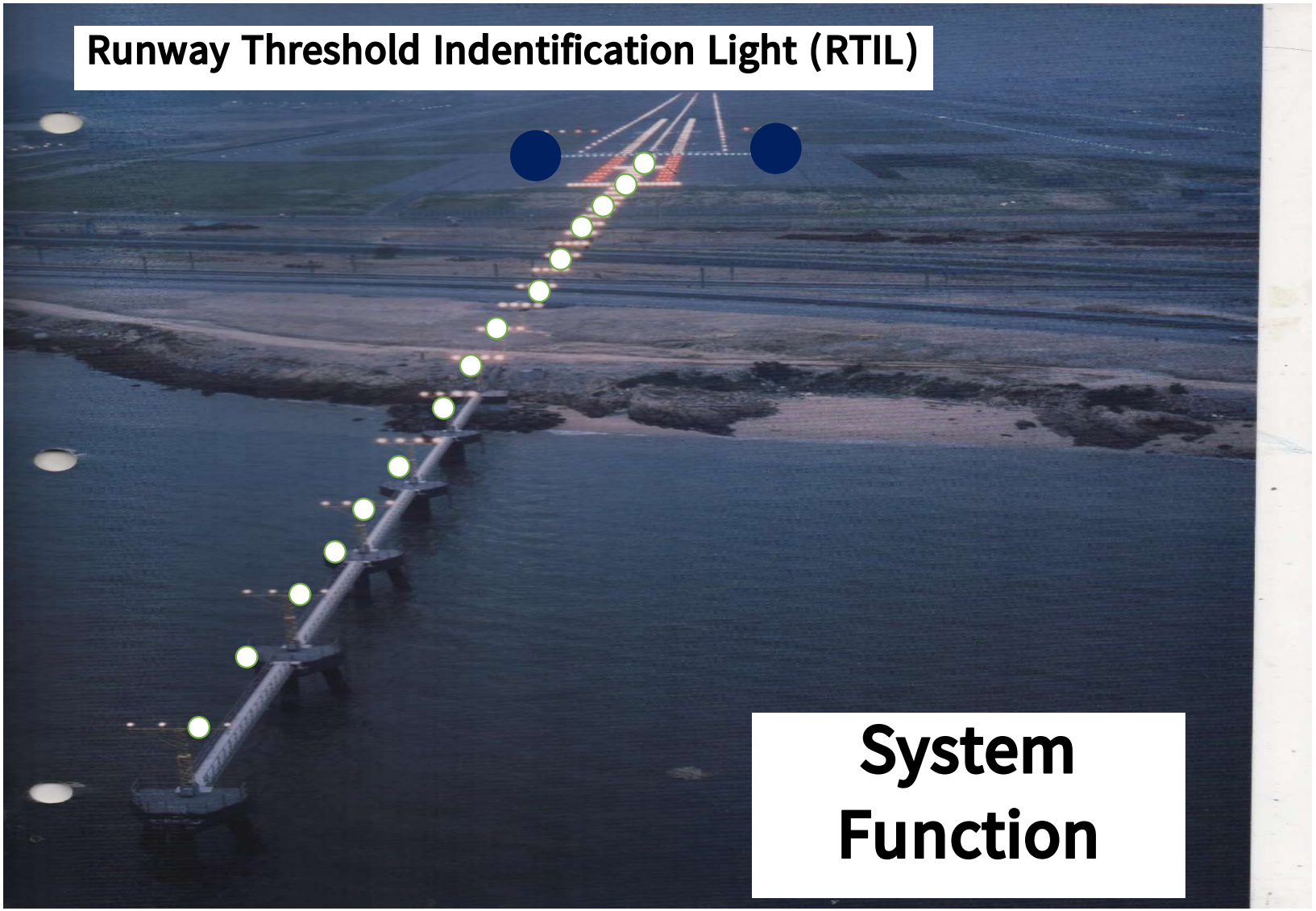

Sequential Flash Light (SFL)
System
Function

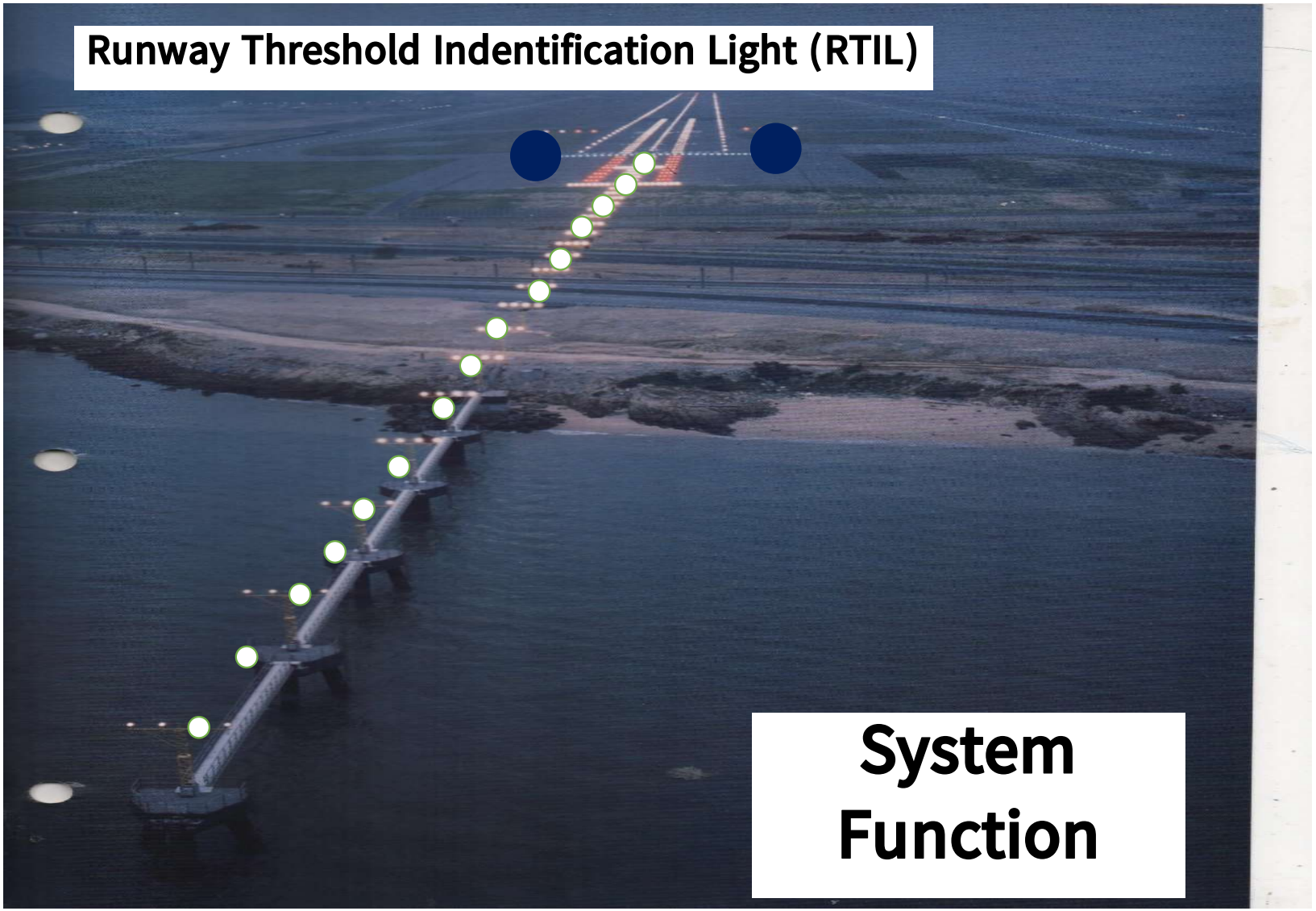

Runway Threshold Indentification Light (RTIL)
System
Function


Runway Threshold Indentification Light (RTIL)
System
Function


Runway Threshold Indentification Light (RTIL)
System
Function


Runway Threshold Indentification Light (RTIL)
System Function


Runway Threshold Indentification Light (RTIL)
System
Function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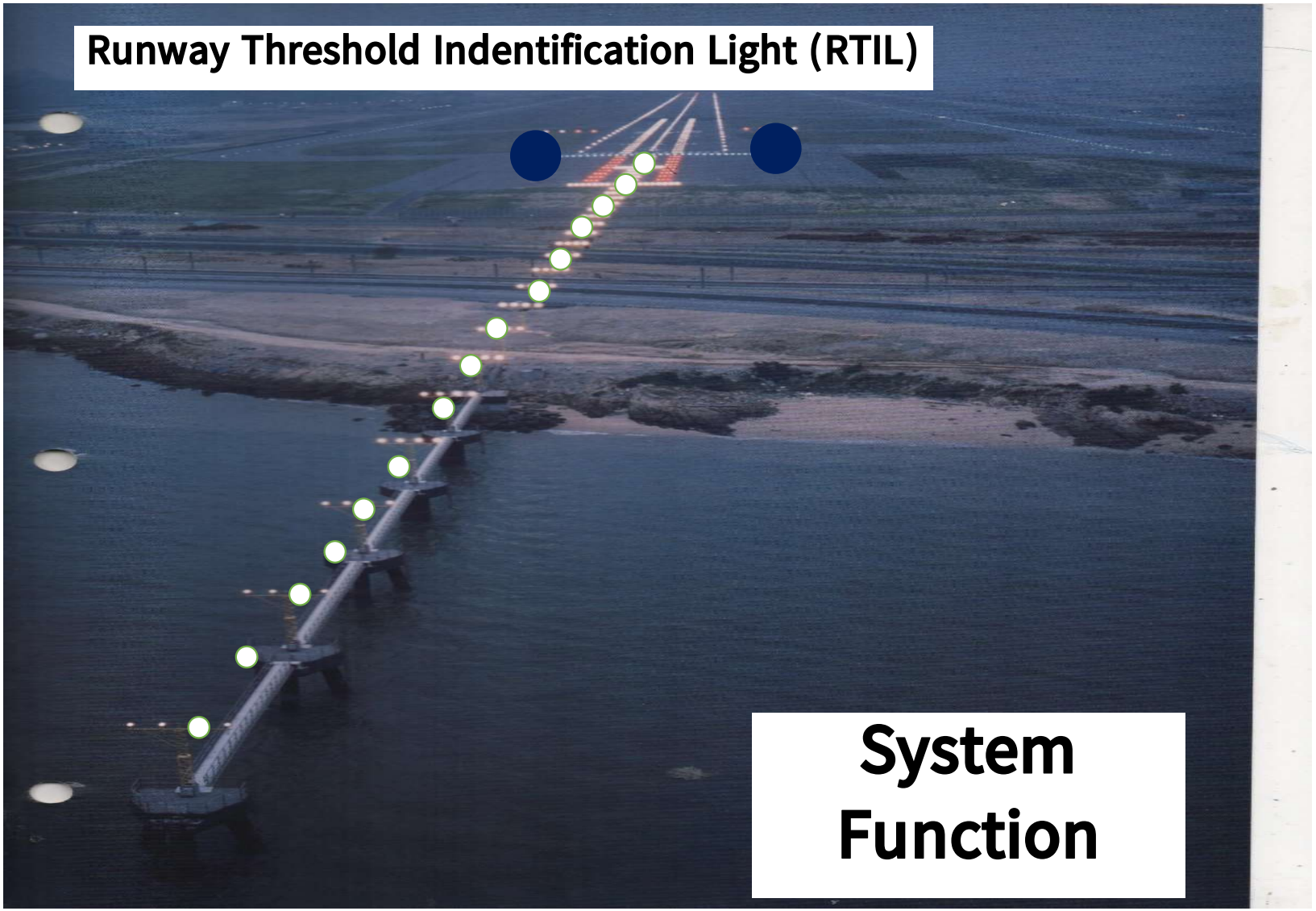
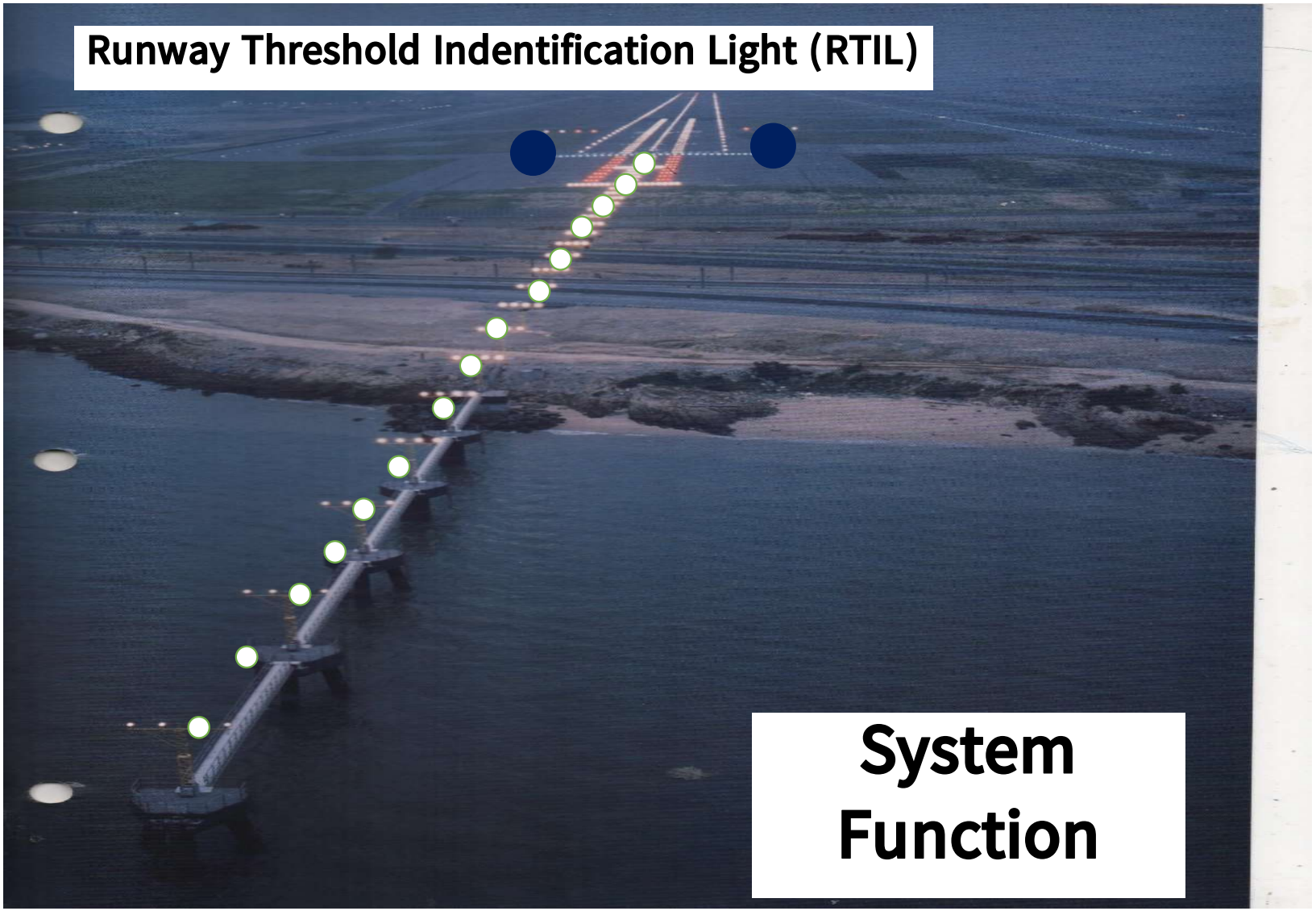
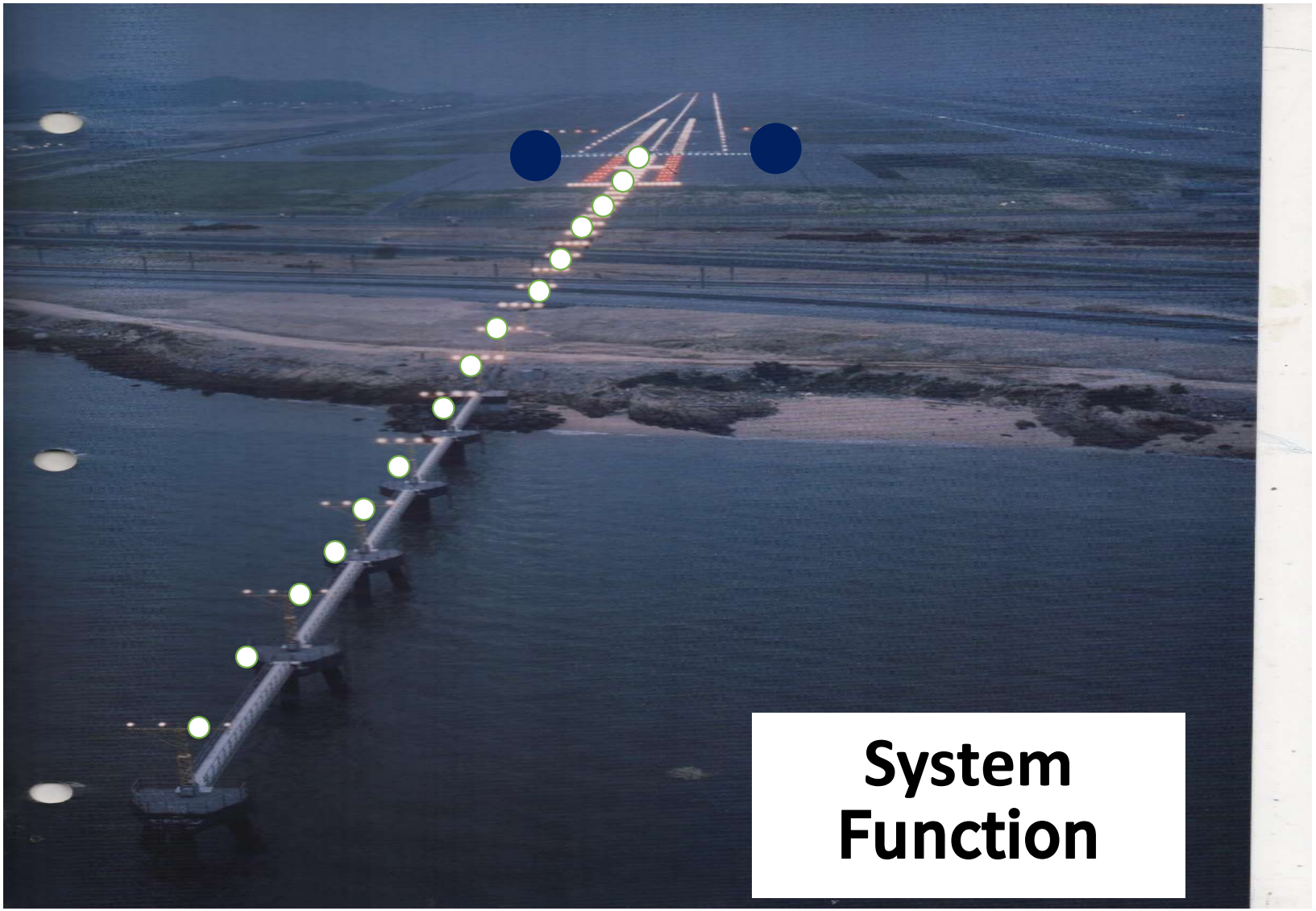
Function


Runway Threshold Indentification Light (RTIL)
System
Function


Runway Threshold Indentification Light (RTIL)
System
Function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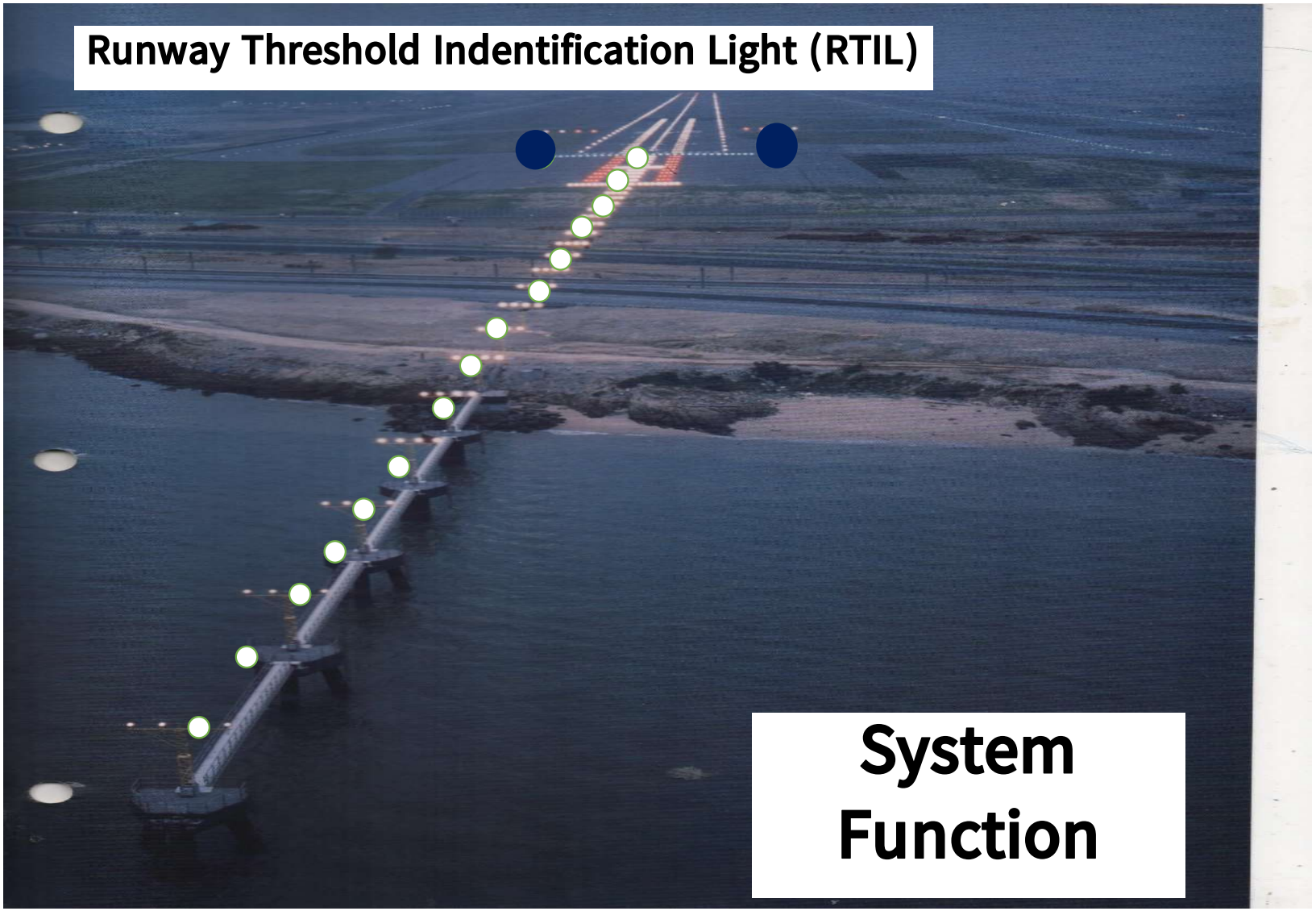
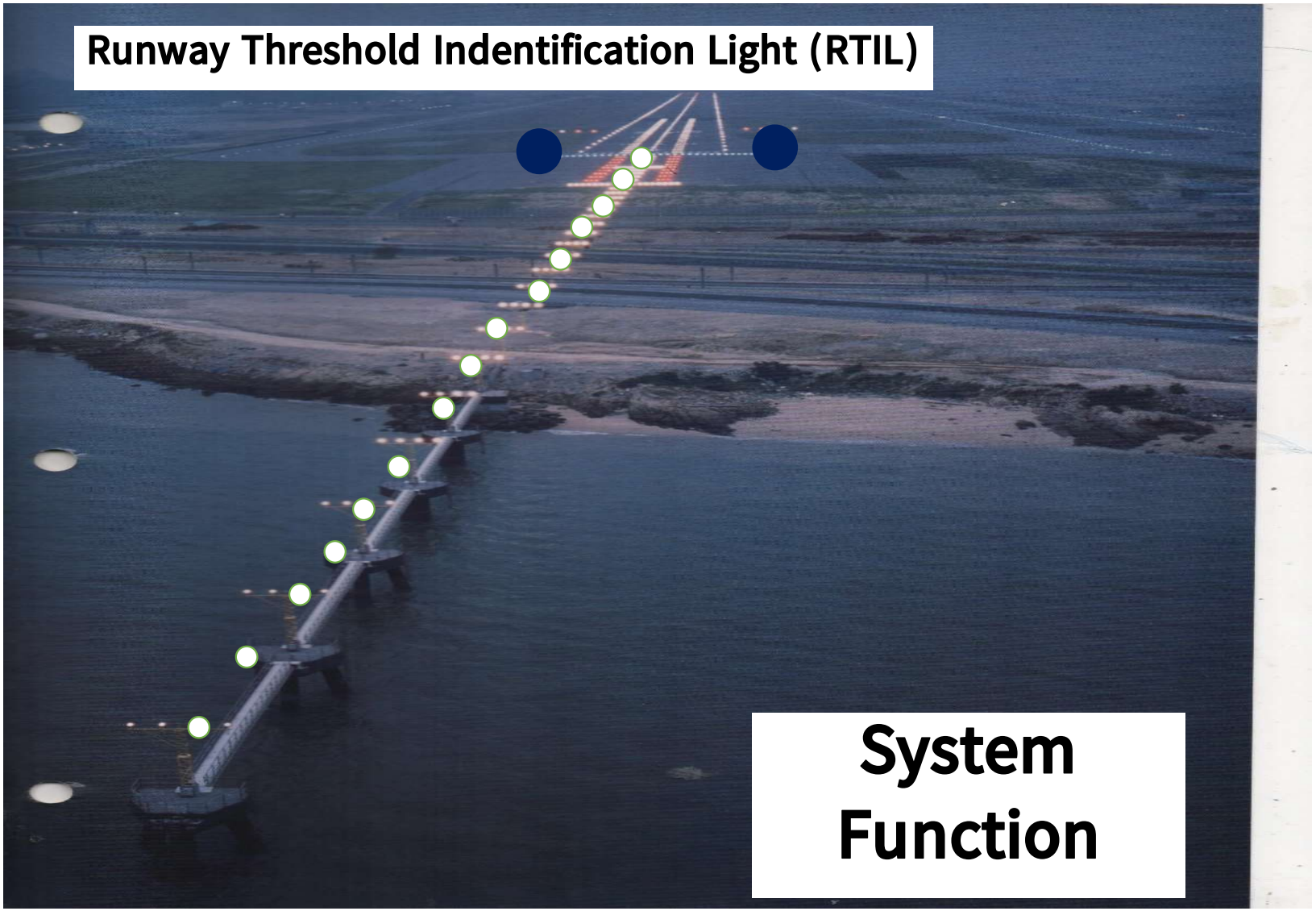
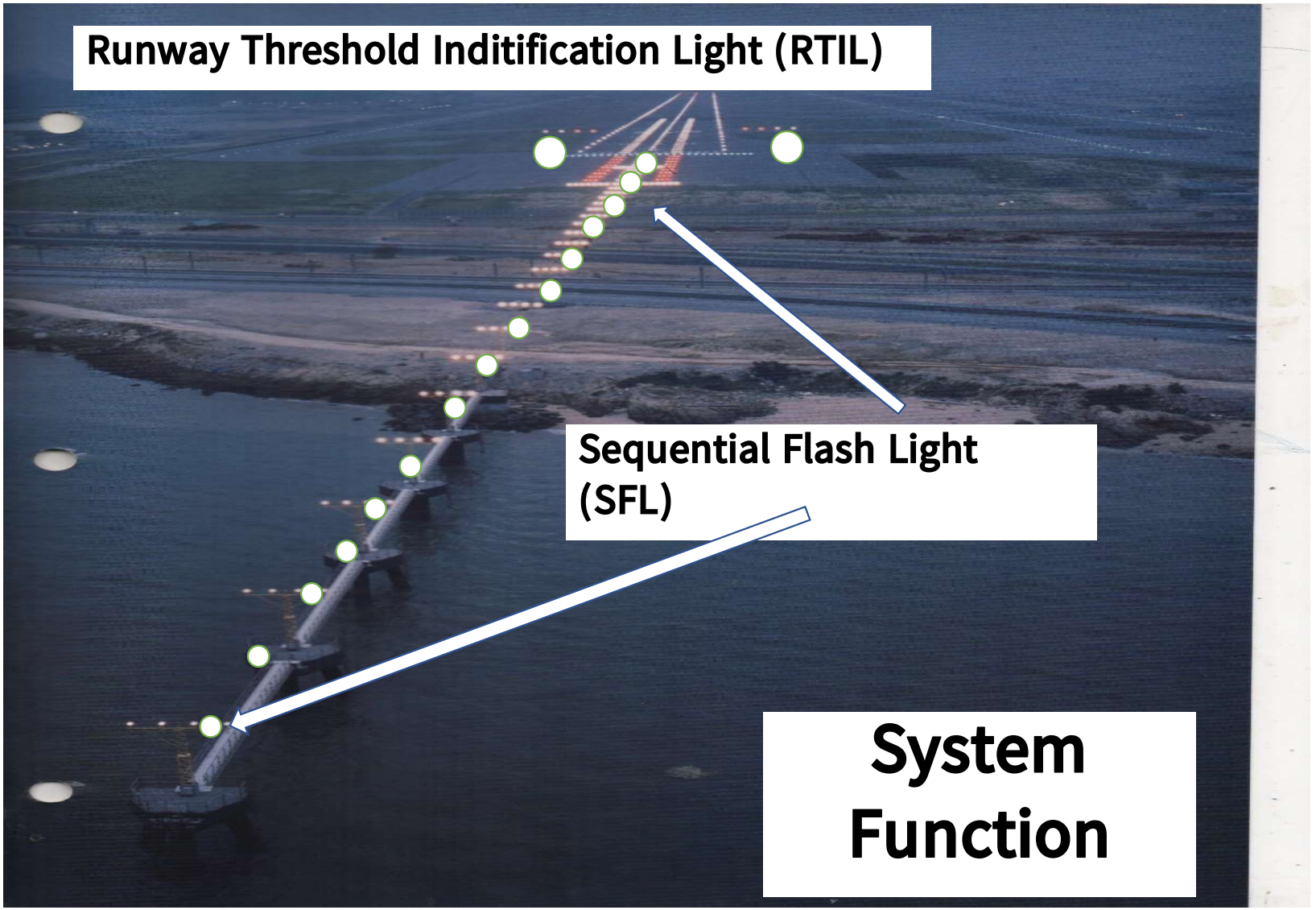
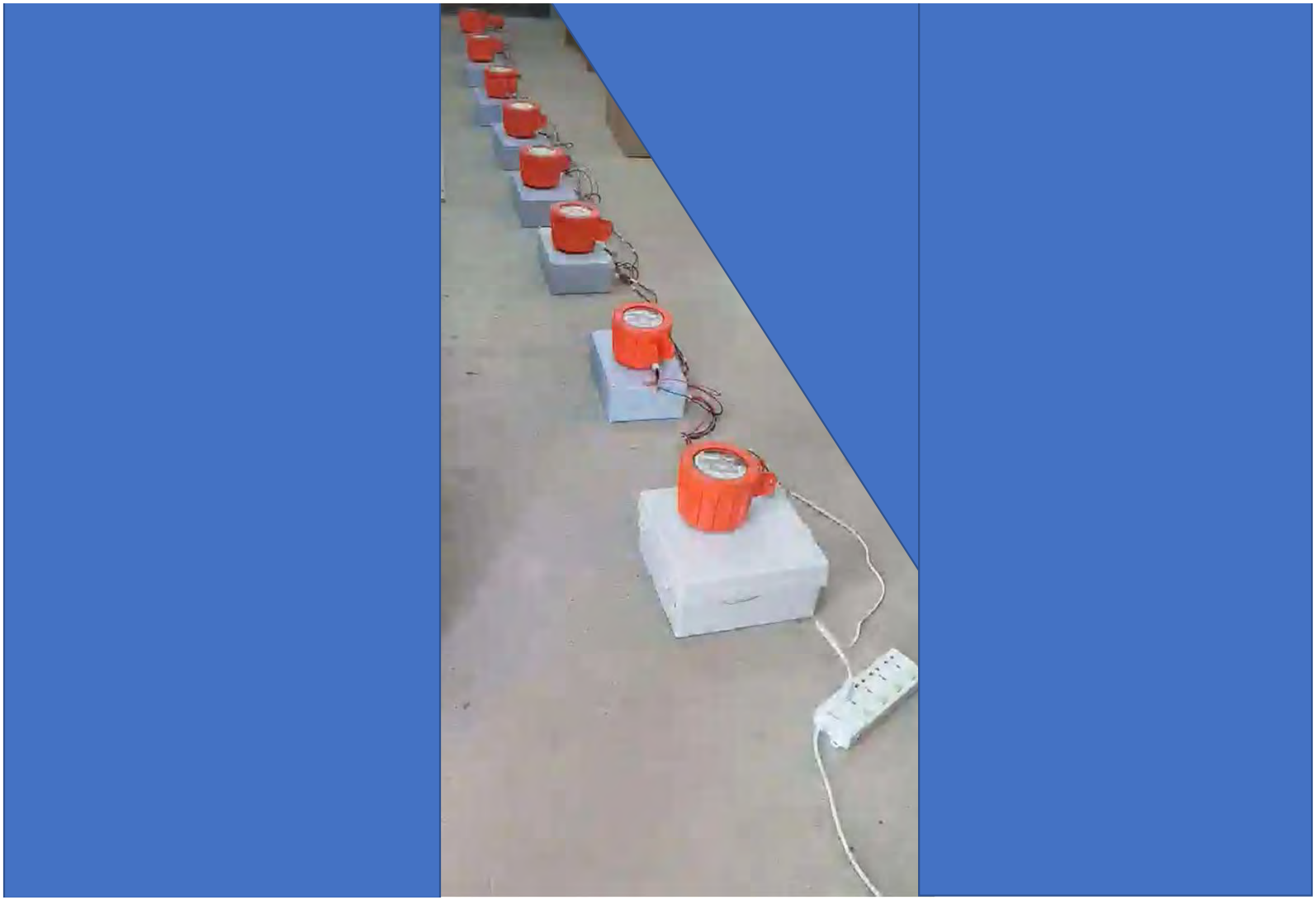
Function


Runway Threshold Indentification Light (RTIL)
System
Function

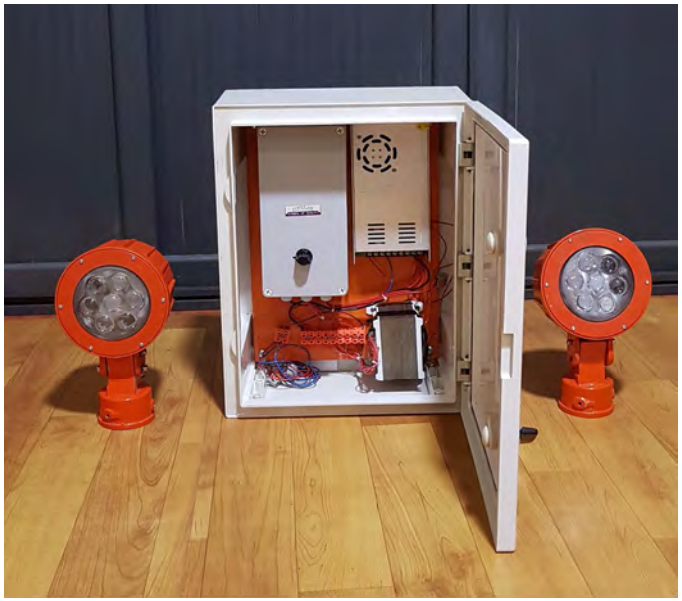

Runway Threshold Indentification Light (RTIL)
System
Function

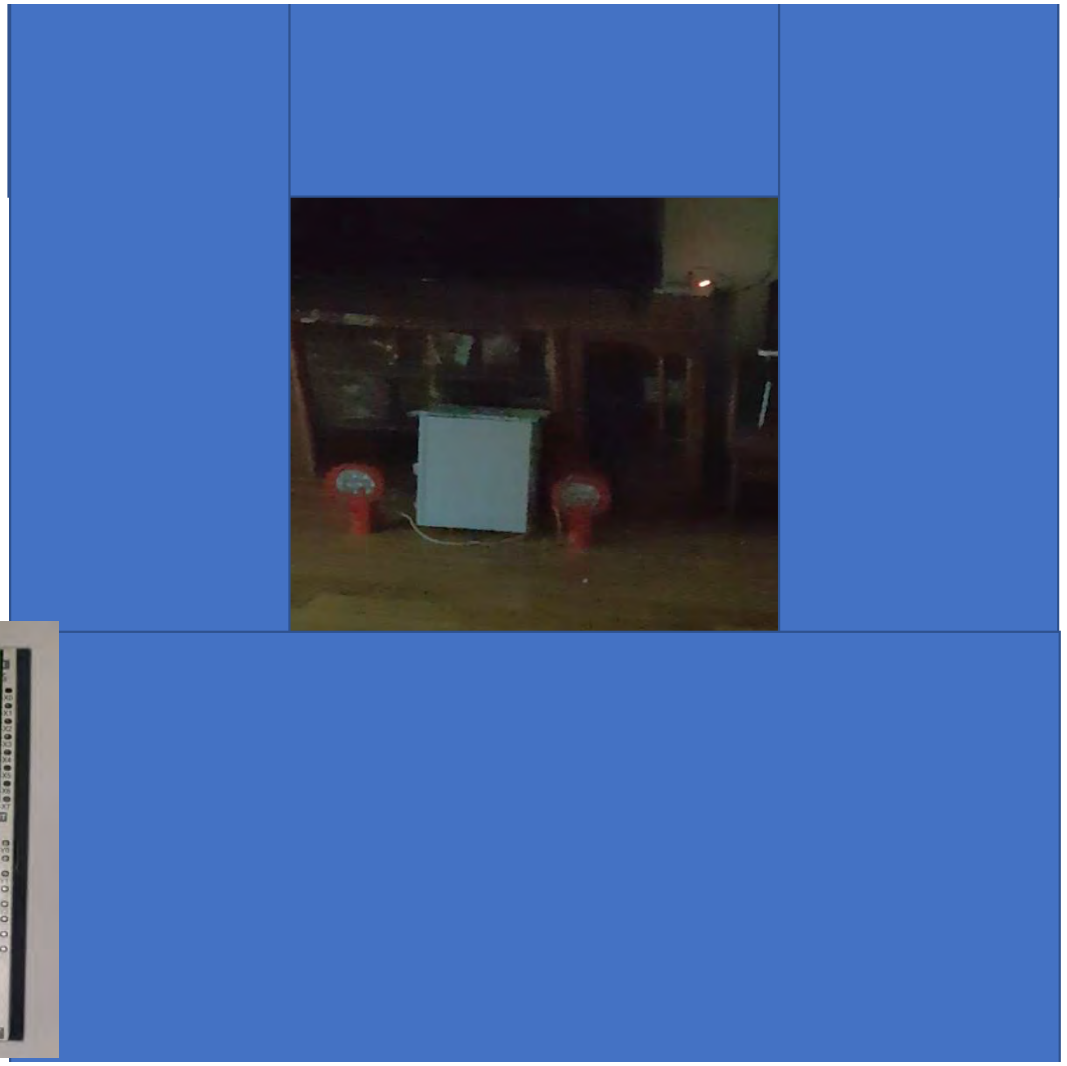

Runway Threshold Inditification Light (RTIL)
Sequential Flash Light
(SFL)
System
Function

Testing of Sequential Flash Light Before Installation



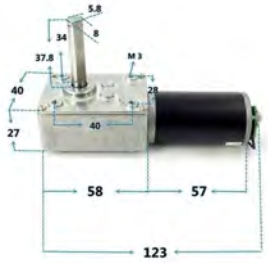
Testing of RTIL after created

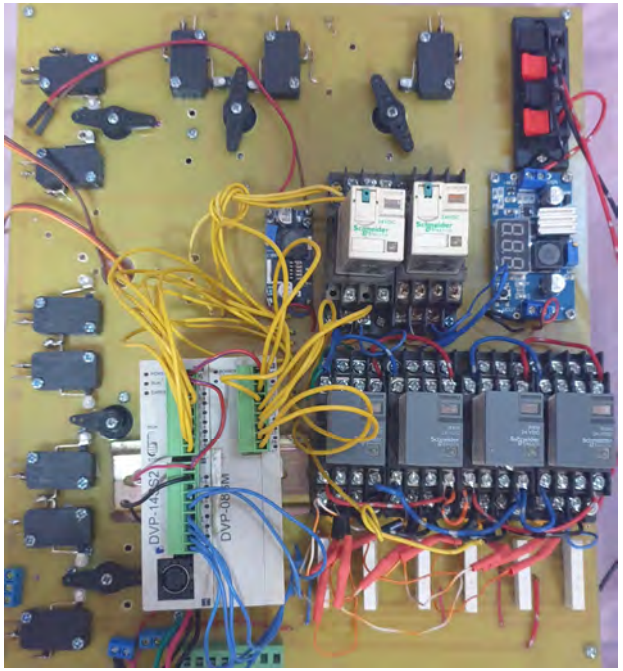




Creation during Covid–19

Remote Control Drive Cart

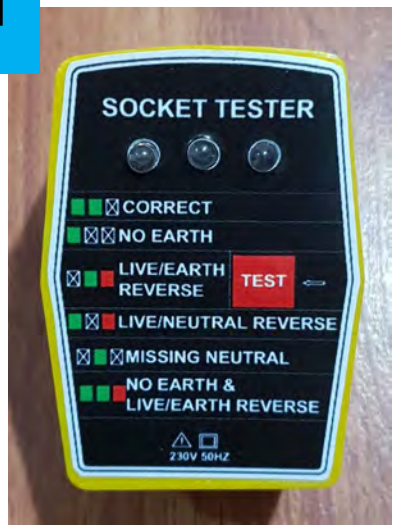




အသုံးပြုတပ်ဆင်ပစ္စည်းများ

Remote Control Drive Chair

Socket Tester



Solar system staircase 12V DC lighting System (Multiway Switching)

ARDUINO

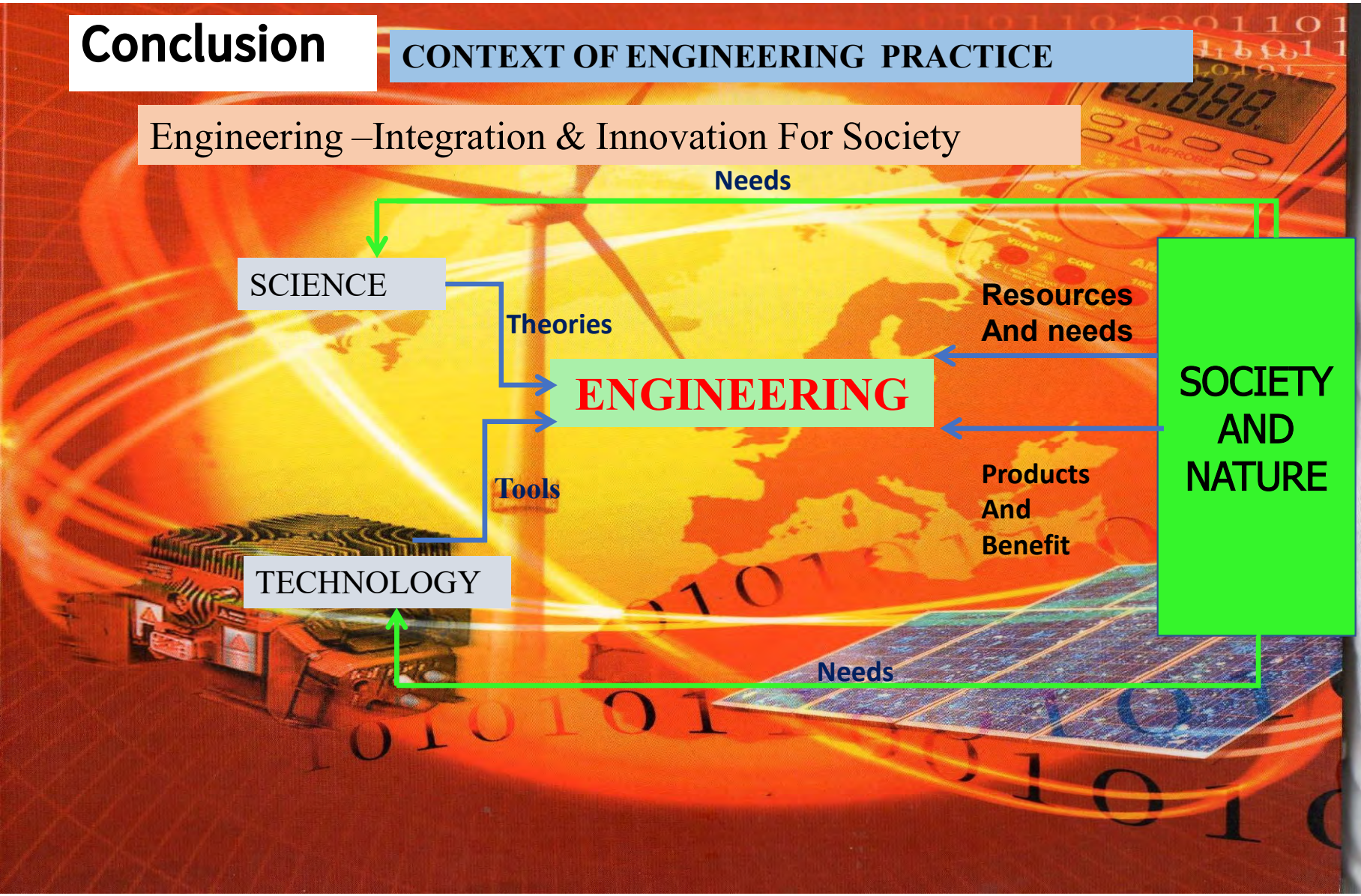
Our **B**rain will **B**right for **C**reation

Our **B**rain will **B**right for **C**ountry

Conclusion

CONTEXT OF ENGINEERING PRACTICE

Engineering –Integration & Innovation For Society



Chinese Philosopher Xunzi

I hear and I forget,
I see and I remember,
I do and I understand.

Tell me, I forget.
Show me, I remember.
Involve me, I understan

Q & A

Thank You