



KDU PRESENTS



# FLAME

BOILER CONTROL SYSTEM

Here's what  
we'll cover:

**FLAME - INTRODUCTION**

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**R&D - A brief history of FLAME**

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**Features & Benefits**

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**Project References & Customer  
Feedbacks**

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**CONTACT US TO KNOW MORE!**



# FLAME

RELIABLE & RETROFIT SOLUTIONS FOR YOUR MARINE REQUIREMENTS

Flame is an intuitive automation system developed by KDU to provide cost-effective and high-quality solutions to our customers in the maritime sector.

After carefully observing and considering the challenges faced by our customers, KDU's R&D team designed and developed a stand alone control system capable of interfacing with different systems which can deliver smooth functioning of the onboard system without any hassle.



**" The founding principle of this development were to resolve the challenges faced by our customers, without them having to make a huge investment and in the minimum downtime. "**

**- Frijo Chacko, GM - Electrical & Automation**



- A total investment of 100,000 USD was made towards the Research, Development and Design of FLAME.
- Total of 180 days approx. were spend on the software development by the Automation team considering the factors & challenges that the system could face onboard any vessel.
- Once the software development was a success, the team focused on developing prototypes to manufacture the best suited models for the end-customers, as per type approval conditions and further testing was conducted.
- These prototypes are submitted for the required class approvals according to the project requirements.

## **RESEARCH & DEVELOPMENT OF FLAME**



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# Without FLAME

- Adversely affected MTT and MTBF rates
- Hardwares are not hot swappable
- No proper fault diagnosis available for the ships crew
- OEM replacements/upgrades are expensive
- Most of the hardwares are obsolete

# With FLAME

- Higher MTBF rates with minimum to zero service calls
- With type approved high performance controllers
- Self-diagnosis features
- Modular design
- Advanced workstation on the ECR for continuous monitoring
- Alarm monitoring, process trends and alarm logs



## MAIN CONTROL UNIT



## BOILER 1: LOCAL CONTROL UNIT



## BOILER 2: LOCAL CONTROL UNIT



## MAIN CONTROLLER



# FLAME SCHEMATICS AT A GLANCE



**50+ VESSELS  
& COUNTING !**

CONTACT US TO KNOW MORE ABOUT THESE PROJECTS AT  
[MARKETING@KDUWORLD.COM](mailto:MARKETING@KDUWORLD.COM)

**"COMPETENT,  
TRUSTWORTHY &  
COST-EFFECTIVE  
SOLUTION AT ITS  
BEST!"**

- World's largest VLCC fleet owner &  
a happy customer with flame operating  
on 25+ vessels!





AUXILIARY BOILER OVERVIEW

COMBUSTION AIR FAN	NORMAL	STEAM PRESSURE TOO HIGH	NORMAL
ROTARY CUP AUTOMIZER	NORMAL	WATER LEVEL	NORMAL
IGNITION OIL PUMP	NORMAL	OIL PRESSURE	NORMAL
BURNER SWING OUT	NORMAL	HFO TEMPERATURE	NORMAL
FIRE IN WIND BOX	NORMAL	COMBUSTION AIR PRESSURE	NORMAL

**SOLUTIONS RE-DEFINED:**  
**CONTACT US TO KNOW MORE!**

**SALES@KDUWORLD.COM**

**OR CALL US AT +971 4 4310 836**

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