

Presentation of IF32 platform

by a company surrounded by the forests of Hälsingland



and some of the most respected hydraulic manufactures in the world.



- 1995 The family business starts as subcontractors of cabling and electronics for mobile hydraulics.
- 1997 Our own safety system for timber cranes is launched. Based on our 16 bits platform. Standard mount on Jonsered and Loglift cranes.
- 2005 Several products based on the same platform are launched – datalogger, control system, customer specific safety system, etc.
- 2010 Spec. and demands for our new 32bit platform is ready.
- 2012 New processor choice.
- 2014 Shows working control system demo on exhibition.
- 2014 Per-Anders Dahlqvist is hired for marketing and system design.
- 2015 Launch determined to be the end of 2015.

IF32 software and hardware objectives

- The platform focus on users in demanding mobile environment. E.g. with high demands on EMC (electro magnetic compatibility), surrounding environment and usage;
- Applications are preferably varied in software. Hardware varieties and changes are to be avoided;
- The hardware shall be modular and flexible. E.g. easy to expand when mounted, or in field;
- Remote (self)diagnostics and configuration via modem;
- A user friendly interface.

Top priorities

1. Safety – focus shall always be on the user and the near surroundings safety. Demands new unique solutions;
2. Reliability before cost savings;
3. User value – all applications, including pure safety systems, shall add advantages in the users day to day work.

The first planned applications for 2016 to 2018



Control system, "off road" – for tractor mounted cranes.

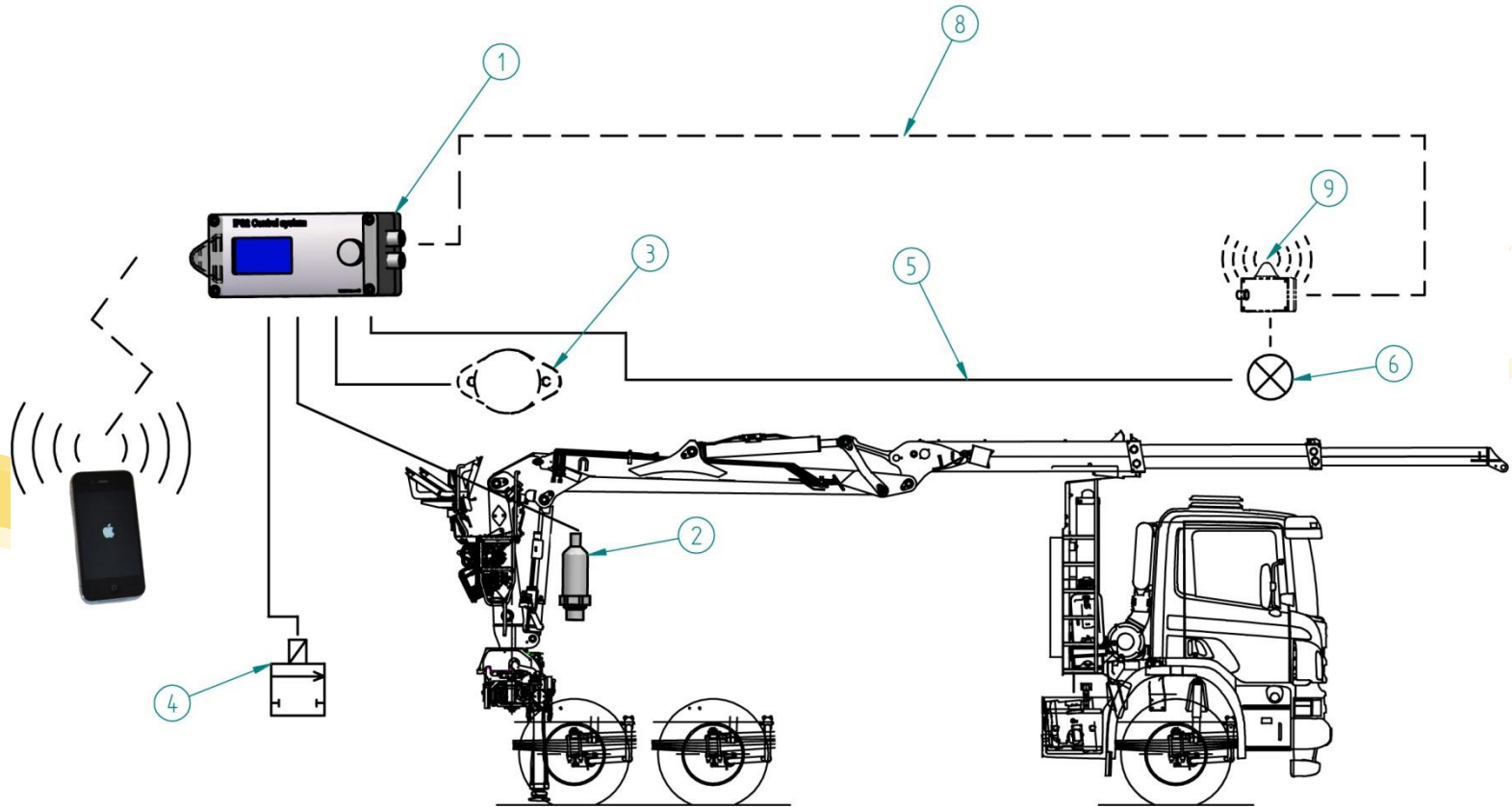


"On road" control and safety system for timber cranes.

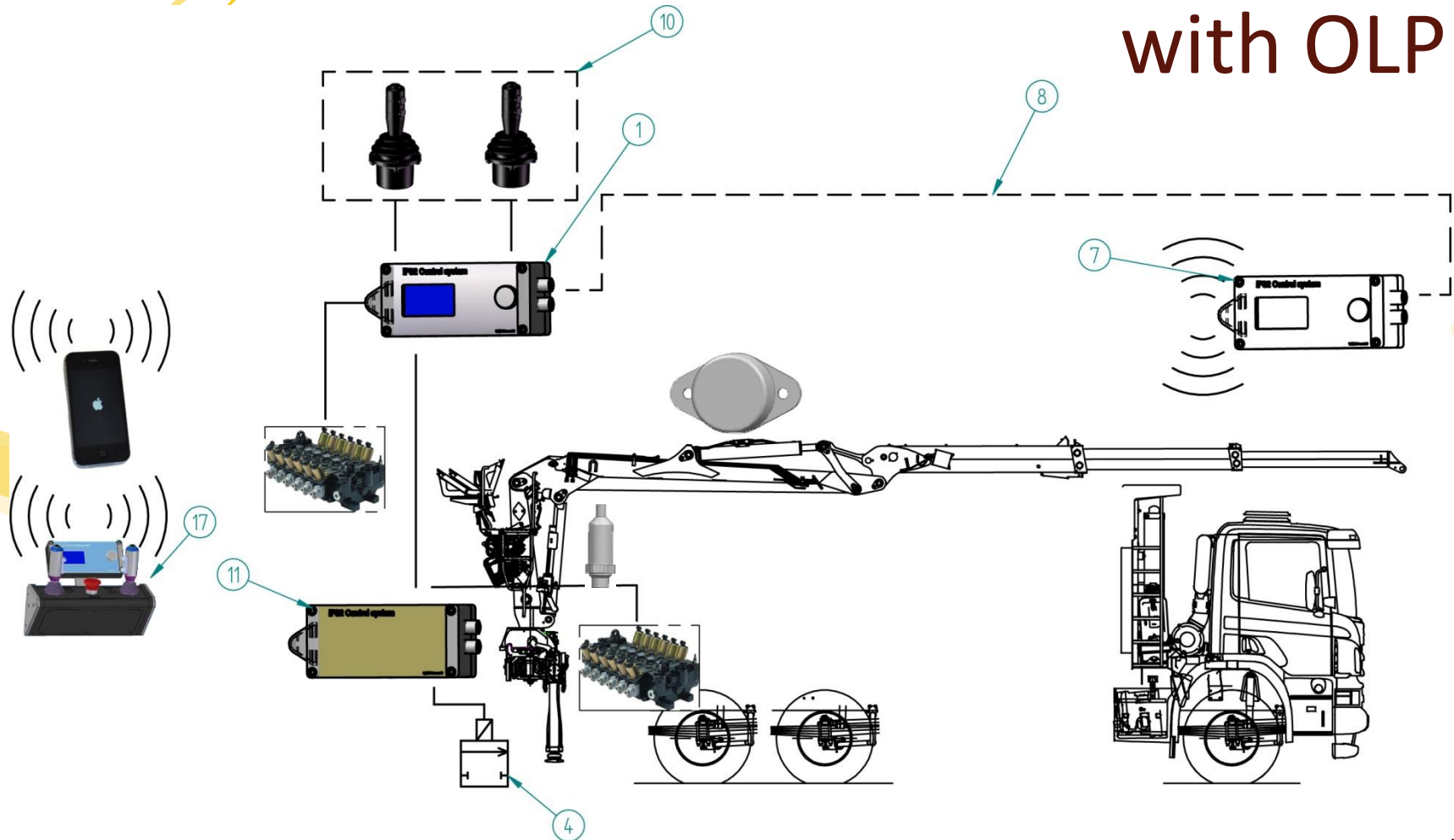


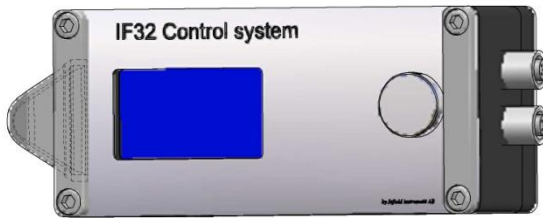
Safety systems for general cargo cranes.

System design – CE system for timber cranes



System design – control system with OLP





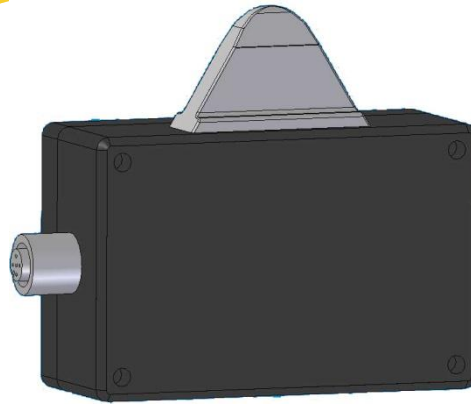
Main box

- Based on powerful 32 bit processor;
- 8 analog inputs for 4-20mA and/or 0-3.3V;
- 8 bipolar or 16 unipolar outputs for on/off and/or analog (PWM). Max current 5A per bipolar output (2.5A in unipolar mode). Possible to control large consumers like head lights;
- Built in comm. buss, RTC (real time clock), SD card reader, Blue tooth, emergency stop, etc.
- Built in user friendly interface with graphic display and roller button (similar to Audi and BMW cars);
- Built in RTOS (real time operating system);
- Upgradable firmware via bus, modem and SD card.



Slave box

- Same functions and spec as main box but without user interface and SD-card reader.

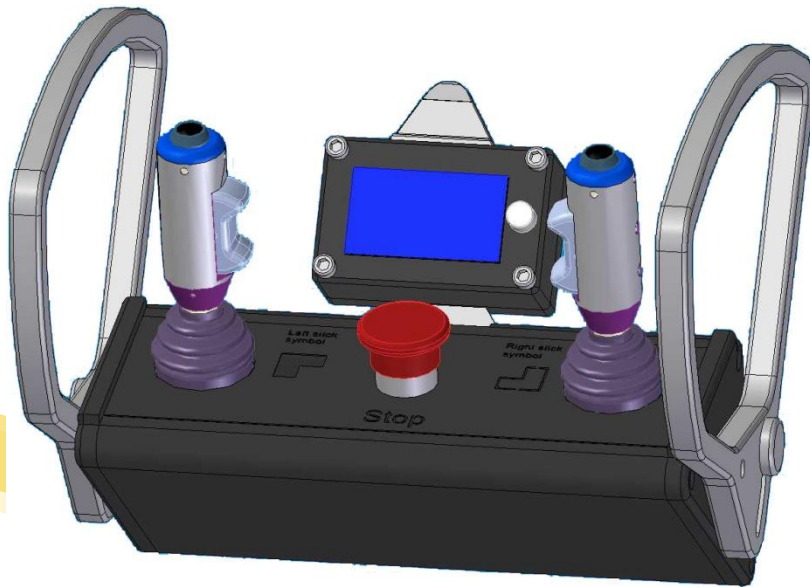


GSM/GPRS modem (option)

- Simple self configuring installation. Only needs mobile phone no. in main box for allowed access;
- Allows for remote configuration and service – all done with an ordinary smartphone or PC;
- Possible to remote upgrade the whole IF32 system firmware, download data, etc.

System design – components

Remote control



- Robust and unique design with focus on productivity and safety;
- User friendly graphic interface;
- Blue tooth communication allows license free usage on almost any market;
- Built in LED:s for flash light and position;
- Built in battery for the whole working day. No need for battery exchange;
- Fast fixing of remote control in crane or tractor cab and at the same time charges the battery;
- Background illuminated symbols on remote control;
- Built in vibrator for attention;
- Heated joysticks.

Caldaro joystick

- Robust, yet small;
- 3 analogue functions + 1 on/off;
- Redundant signal (option);
- Contactless sensors;
- 12 or 20° stroke;
- Broad program with different grips.



Additional priorities

- The system shall be self configuring;
- All hardware shall have built in diagnostics;
- "Fail safe" is an absolute priority but to a possible extent the work shall be possible to continue with diagnosed fault condition.

IF32 main objectives and advantages

User value;
Safety;
Productivity.

- First smartphone interface for cranes?;
 - Integrated personal safety alarm and small but useful add ons;
- Fully graphical user interface;
 - Thought through design of remote control;
 - Modular design means scalable – no need to exchange components with growing demands;
 - Reliable components without compromises.

