

Summary of the motion WS in Ljubljana, 2022-09-20

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Buzz words

- 30-40 participants, majority remotely
- Seeing new faces, which is good
- Using zoom worked "fully OK" (tm)
- Stuff will be put on
- <https://github.com/EPICS-motor-wg>

What did we do

- 2 shortened presentations EtherCAT HW, TwinCAT SW and ECMC SW solutions used at ESS and collaborating facilities
- Good time for discussions

Functional safety -1

- functional safety: (There is TwinSAFE, but)
- Personal protection:
always separate HW:
switches, cables, safety PLCs (PPS group)
- Machine protection: similar
- Equipment protection: (collision detection)
probably possible inside the motion
controller. Kill switch.

Functional safety -2

- Functional safety
In any case: Make a hazard analyses:
 - Risk
 - damage
 - impact
 - costs

EPICS Motor module

- Side note: it is the motorRecord.cc, model3 generic driver and specific drivers
- Not all implementations for different controllers are the same
motor spend effort to make them uniform:
I think that those subtle differences in the driver(s) should go to tech talk.
- And result in Git patches: PR, MR

No good answers

- Fly scan with absolute encoders, question from Li Ji
(No good answers yet)
- Replacement of obsolete deltaTau Turbo PMAC
(question too late for the WS.
But there are modern controllers ;-)

MotorRecord

- motorRecord is a good abstraction for higher control systems
- The model 3 driver allows the motorRecord to be used.
- caput IOC:m1.VAL (motor Record)
- caput IOC:m1-MoveAbs (ao record)

MotorRecord

Move a motor from 6 to 16 mm, 1mm/sec):

```
time caput -w 20 -c IOC:m1 16
Old : IOC:m1 6
New : IOC:m1 16
real 0m10.476s
```

```
time caput -w 20 -c IOC:m1-MoveAbs 16
Old : IOC:m1-MoveAbs 6
New : IOC:m1-MoveAbs 16
real 0m0.058s
```

What next

- See you at the next EPICS meeting
- Some follow-up meetings planned to discuss specific items.
- Learning about epics motor, motorRecord, model 3:

<https://www.youtube.com/embed/N5tzK95j4dg>