Standard files are:

* similar to CSV 170830.csv (2017, august, 30th)
* header:
  + start
  + end of tram
* Certain delay after systems reach nominal level
  + table in calibration.png is a fixed table
  + offset is different for each datafile and for each channel
  + offsets can be learnied from first 30 seconds of data – this is the zero level
  + usually you substract the offset from the value
  + apparently the first minute of data should be dropped
* Jocelyn is responsible for data transformation
* REIMS data was already processed
  + in this file we have already processed data – so we can se if we are doing the right things
* CH1 – external temperature
* CH2 – internal temperature
* CH3 – lon
* CH4 – lat
* CH5 – system pressure drop in HVAC – not interesting
* CH6 – speed in km/h
* CH7, CH20 – HVAC current
* CH8, 9 – traction currents – sila na vlak
* CH10 – CO2 level, they don’t know accuracy, they don’t know the number of pasasgners
* CH11 – CH14 – current in the rheostat – we get power from the top during the itinerary, in centere there are 2 km, where instead of third track we get power from the ground
  + when the tram is breaking the kinetic energy is recovered and reinserted into the line to be used to other tram in the same substation, recharge battery; when it is powered through the ground – the kinetic energy is dicipated into rheostat, rheostaet measures the dicipation of the energy
* CH15 – above 12V we have overhead, otherwise ground – napetost – just indication where power comes from
* Power of the line:
  + CH16 – current of the overhead line – when the tram goes forward, the current is negative (using energy), when it is recovering – the current is positve
  + CH17 – voltage
* CH18 – current of power converter – converts DC to AC and is used to feed the current back into the line, to convert the current to feed the heating and ventilation
* Ch19 – for this
* CH20 – other current for the heating
* not all sensors have the same precision – basically these are out of the shelf instrumentation, some are more precise than other;
* E\_TCU = U\_CAT x (I\_TCU1 + I\_TCU2) – not very precise, better precision if I take E\_toptal – E\_CVS - ???
* also measurements for rheostats are nto very precise
* CH21, 22 – forget about them

Next meeting – maybe in 2 weeks.