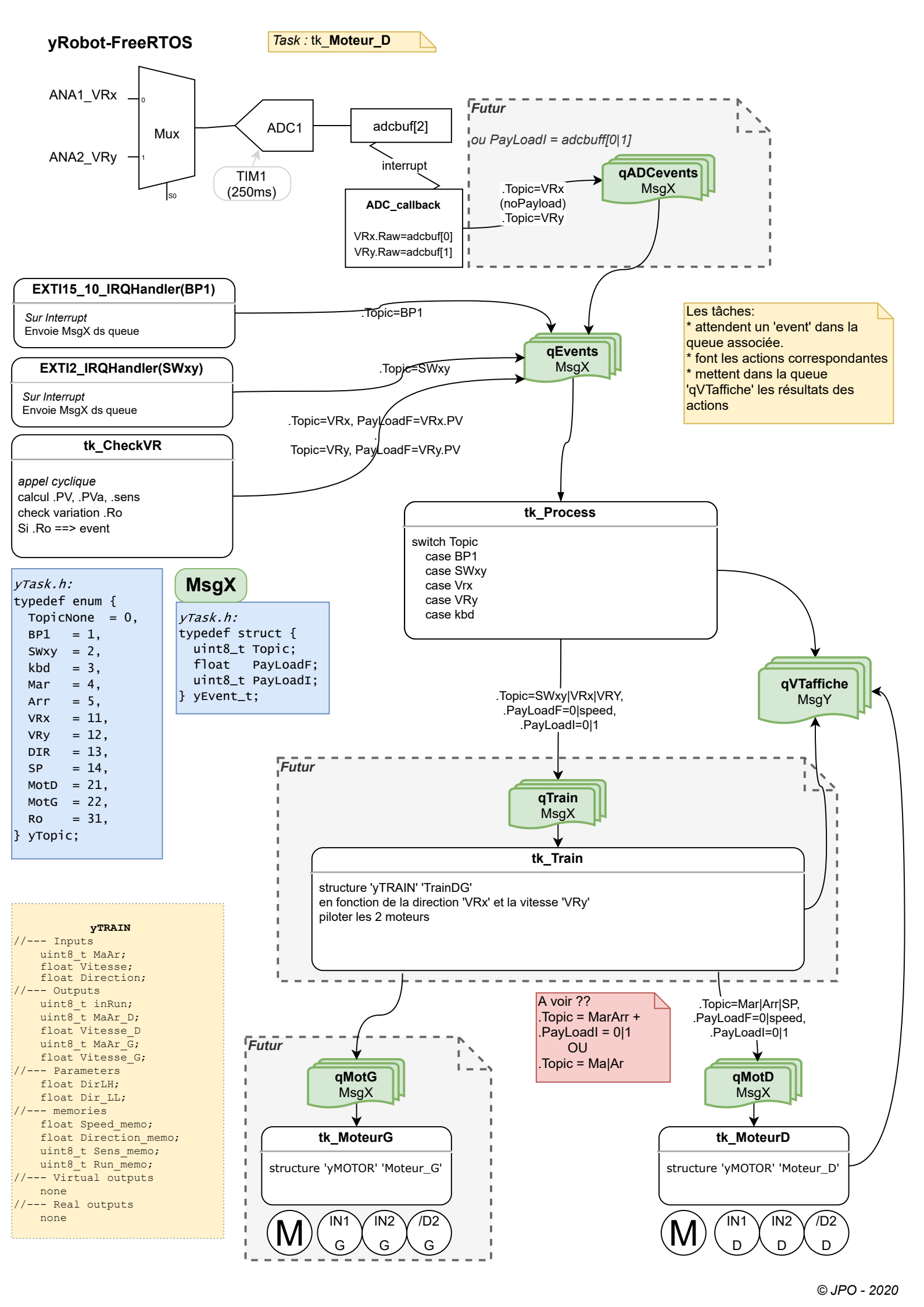
yRobot-FreeRTOS
Task : tk_Moteur_D
ANA1_VRx
ANA2_VRy
Mux
ADC1
adcbuf[2]
TIM1
(250ms)
interrupt
ADC_callback
VRx.Raw=adcbuf[0]
VRy.Raw=adcbuf[1]
Futur
ou PayLoadI = adcbuff[0|1]
.Topic=VRx
(noPayload)
.Topic=VRy
qADCevents
MsgX
EXTI15_10_IRQHandler(BP1)
Sur Interrupt
Envoie MsgX ds queue
.Topic=BP1
EXTI2_IRQHandler(SWxy)
Sur Interrupt
Envoie MsgX ds queue
.Topic=SWxy
qEvents
MsgX
tk_CheckVR
appel cyclique
calcul .PV, .PVa, .sens
check variation .Ro
Si .Ro ==> event
.Topic=VRx, PayLoadF=VRx.PV
.Topic=VRy, PayLoadF=VRy.PV
Les tâches:
* attendent un 'event' dans la queue associée.
* font les actions correspondantes
* mettent dans la queue 'qVTaffiche' les résultats des actions
tk_Process
switch Topic
case BP1
case SWxy
case Vrx
case VRy
case kbd
yTask.h:
typedef enum {
TopicNone = 0,
BP1 = 1,
SWxy = 2,
kbd = 3,
Mar = 4,
Arr = 5,
VRx = 11,
VRy = 12,
DIR = 13,
SP = 14,
MotD = 21,
MotG = 22,
Ro = 31,
} yTopic;
MsgX
yTask.h:
typedef struct {
uint8_t Topic;
float PayLoadF;
uint8_t PayLoadI;
} yEvent_t;
qVTaffiche
MsgY
.Topic=SWxy|VRx|VRY,
.PayLoadF=0|speed,
.PayLoadI=0|1
Futur
qTrain
MsgX
tk_Train
structure 'yTRAIN' 'TrainDG'
en fonction de la direction 'VRx' et la vitesse 'VRy'
piloter les 2 moteurs
yTRAIN
//--- Inputs
uint8_t MaAr;
float Vitesse;
float Direction;
//--- Outputs
uint8_t inRun;
uint8_t MaAr_D;
float Vitesse_D
uint8_t MaAr_G;
float Vitesse_G;
//--- Parameters
float DirLH;
float Dir_LL;
//--- memories
float Speed_memo;
float Direction_memo;
uint8_t Sens_memo;
uint8_t Run_memo;
//--- Virtual outputs
none
//--- Real outputs
none
A voir ??
.Topic = MarArr +
.PayLoadI = 0|1
OU
.Topic = Ma|Ar
.Topic=Mar|Arr|SP,
.PayLoadF=0|speed,
.PayLoadI=0|1
Futur
qMotG
MsgX
tk_MoteurG
structure 'yMOTOR' 'Moteur_G'
M
IN1
G
IN2
G
/D2
G
qMotD
MsgX
tk_MoteurD
structure 'yMOTOR' 'Moteur_D'
M
IN1
D
IN2
D
/D2
D