

11)

$$\kappa = \frac{\prod Z_{\text{menekan}}}{\prod Z_{\text{menekan}}}$$

$$\kappa = \frac{\omega_5}{\omega_6}$$

$$\kappa = \frac{\omega_6}{\omega_4}$$

$$\kappa = \frac{Z_4}{Z_6}$$

$$\eta = \frac{d_4}{d_6}$$

$$\kappa = \frac{18}{64} \approx \frac{1}{3,56}$$

12)

$$\kappa = \frac{\omega_6}{\omega_4}$$

$$\omega_6 = \kappa \cdot \omega_4 \quad \omega_6 = \frac{1}{3,56} \cdot 1084$$

$$\omega_6 \approx 303 \text{ rad/s}$$

$$N_6 \approx 2830 \text{ tr(-)}$$

13)

$$\eta_{6456} = \frac{P_{\text{gabel}}}{P_{\text{mot}}}$$

$$P_{\text{gabel}} = \eta_{6456} \cdot P_{\text{mot}}$$

$$P_{\text{gabel}} = 0,92 \cdot 2080 \approx 1910 \text{ W}$$

$$14) P_{\text{galeto}} = \tau_2 \cdot \omega_2$$

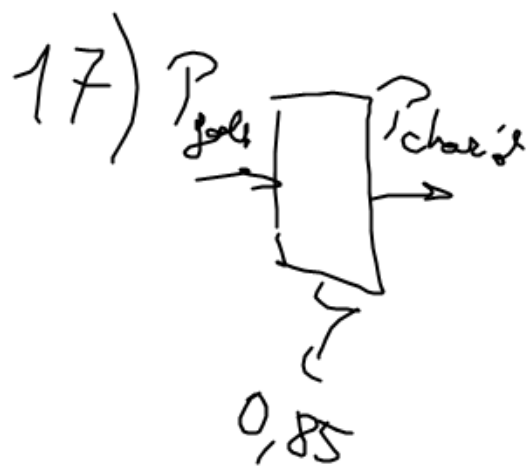
$$15) \tau_2 = \frac{P_{\text{galeto}}}{\omega_2}$$

$$\tau_2 = \frac{1912}{305}$$

$$\tau_2 \approx 6,27 \text{ N.m}$$

$$16) V_{\text{ch}} = \omega_2 \cdot R_2$$

$$V_{\text{ch}} = 305 \cdot \frac{82 \cdot 10^{-3}}{2}$$



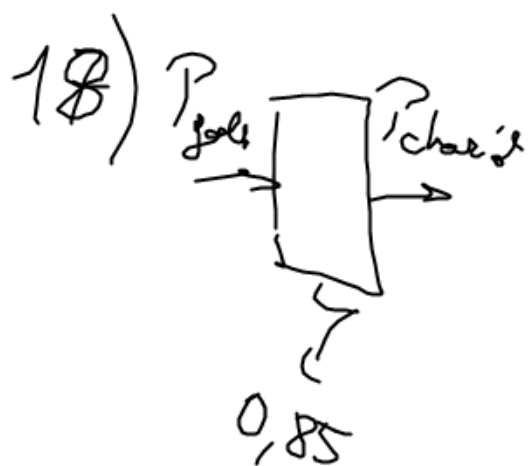
$$\eta_2 = \frac{P_{\text{ch}}}{P_{\text{galeto}}}$$

$$P_{\text{ch}} = \eta_2 \cdot P_{\text{galeto}}$$

$$\approx 12,5 \text{ m/s}$$

$$\approx 45 \text{ km/h}$$

$$P_{\text{ch}} = 0,85 \cdot 1912 \approx 1625 \text{ W}$$



$$\eta_2 = \frac{P_{ch}}{P_{galet}}$$

$$P_{ch} = \eta_2 \cdot P_{galet}$$

$$P_{ch} = 0,85 \cdot 1912 \approx 1625 \text{ W}$$

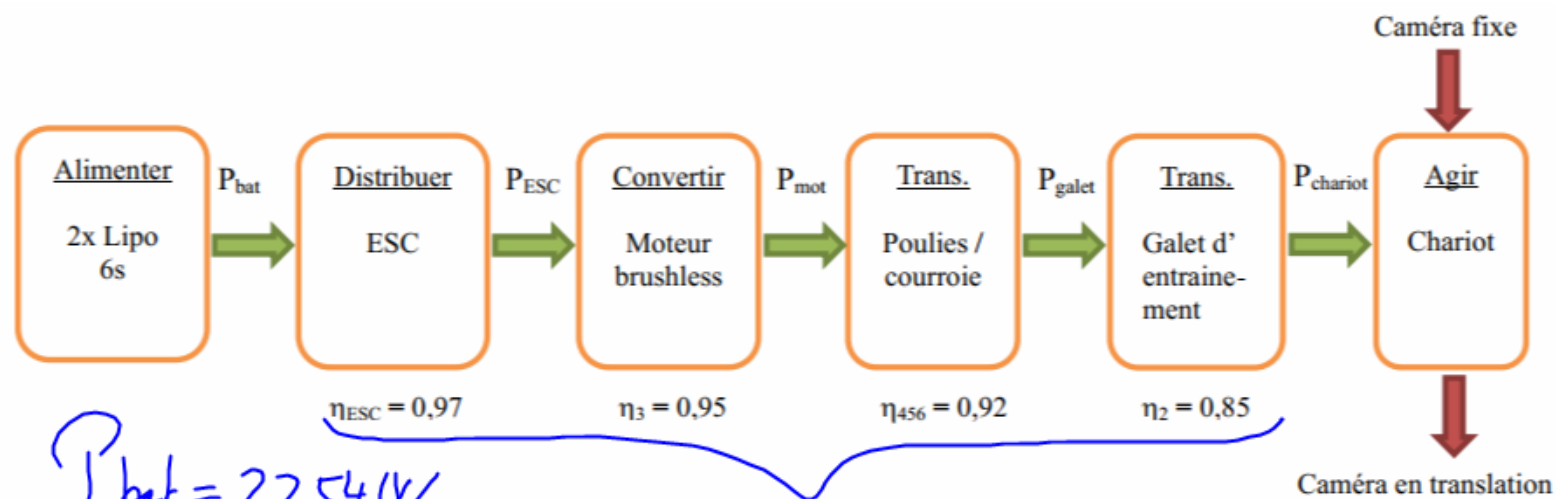
182)

$$P_{ch} = F_{prop} \cdot V_{ch}$$

$$F_{prop} = \frac{P_{ch}}{V_{ch}}$$

$$F_{prop} = \frac{1625}{12,5} \approx 130 \text{ N}$$

↳ correspond à 13 kg



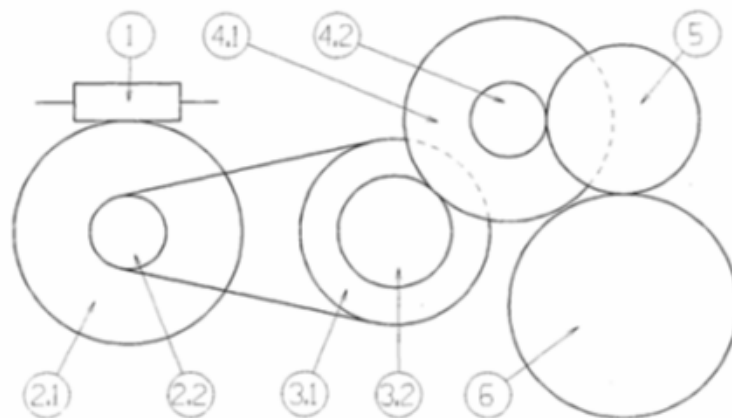
$$P_{bat} = 2254W$$

$$\eta_{6g} = 0,97 \cdot 0,95 \cdot 0,92 \cdot 0,85$$

$$\approx 0,72 = 72\%$$

Un moteur électrique (puissance 500 W, vitesse de rotation 1500 tours / min), entraîne un système roue et vis (2 filets / $Z_{2.1} = 60$ dents). Celui-ci entraîne un système poulie-courroie ($d_{2.2} = 30$ mm, $d_{3.1} = 100$ mm) solidaire d'un train d'engrenages ($Z_{3.2} = 30$ dents, $Z_{4.1} = 50$ dents, $Z_{4.2} = 15$ dents, $Z_5 = 50$ dents, $Z_6 = 80$ dents).

5/5



$$i = \frac{2 \cdot 30 \cdot 30 \cdot 15 \cdot 50}{60 \cdot 100 \cdot 50 \cdot 50 \cdot 80} \approx \frac{1}{889}$$