Par esterni

$$A = \begin{bmatrix} R & -RT \\ 0 & 1 \end{bmatrix} \qquad M = \begin{bmatrix} 1 & 0 & 0 & 0 \\ 0 & 1 & 0 & 0 \\ 0 & 0 & 1 & 0 \end{bmatrix}$$

$$K = \begin{bmatrix} f & 0 & x_0 \\ 0 & f & y_0 \\ 0 & 0 & 1 \end{bmatrix} \qquad P = \begin{bmatrix} x \\ y \\ z \\ 1 \end{bmatrix}$$

par Interni

coordinate omogenee

$$p(x_p, y_p)$$

$$P \to P^* \to p$$

$$P^* = AP = \begin{bmatrix} m_{11}(x - x_0) + m_{12}(y - y_0) + m_{13}(z - z_0) \\ m_{21} \\ m_{31} \\ \text{---} \quad \text{---} \quad \text{---} \quad \text{---} \end{bmatrix} = \begin{bmatrix} x \\ y \\ z \\ 1 \end{bmatrix}$$

coordinate om

$$P^{**} = MP^* = \begin{bmatrix} x^* \\ y^* \\ z^* \end{bmatrix}$$

In coordinate omogenee

$$p = KP^{**} = \begin{bmatrix} f x^* + x_0 z^* \\ f y^* + y_0 z^* \\ z^* \end{bmatrix} = \begin{bmatrix} x \\ y \\ w \end{bmatrix}$$

$$P_{\text{revdides}} = \frac{f x^* + x_0 z^*}{z^*} \ \ \frac{f y^* + y_0 z^*}{} = \begin{bmatrix} \dfrac{f x^*}{z^*} + x_0 \\ \vdots \\ \dfrac{f y^*}{z^*} + y_0 \end{bmatrix}$$

$$P = H P$$