Definition (**Special** Euclidean group SE(n))**.** The special Euclidean group of order n, written SE(n), is the group of $(n+1) \times (n+1)$ square matrices of the form

$$\begin{pmatrix} \mathbf{R} & \mathbf{t} \\ \mathbf{0} & 1 \end{pmatrix}$$

where $\mathbf{R} \in \mathrm{SO}(n)$ and $\mathbf{t} \in \mathbb{R}^n$.