In this paper we have defined the anthropometric parameters that describe the degrees of freedom, the ranges of joint movement and postures eligible by the human body. Based on this literature search, for each joint, we divided the Range of Motion (ROM) in angular intervals, each with a specific meaning:

• the CROM (Comfort Range of Motion) as domain of definition of the function comfort,

• the RRP (Range of Rest Position) as angular range, that characterize the rest positions of the human body. In the logic of the evaluation model developed in this study, the RRP represent the angular interval characterized by the maximum score of comfort.

The acquired information about the CROM and the RRP, supplemented by a large amount of experimental data obtained in the course of many weeks of testing in the laboratory, were then used to train a neural network, generalizing, thus, the results obtained from the analyzes carried in the laboratory. The choice has been conditioned by the need for an instrument that would allow to disengage from the results directly acquired from the reference sample, but which was based on these values to generate new at angles different from those obtained during the trial. It was then used a neural network for each articulation and for each movement to determine the type of correlation between the angular values and ratings of comfort available.

The levels of comfort thus obtained were combined with each other to express the overall comfort of a complex posture, seen as a combination of different elementary movements.

Attention has been devoted to the theme of cognitive ergonomics in order to complete the analysis carried out ergonomic posture, and in order to provide a complete tool for ergonomic analysis. The analysis of the factor of cognitive ergonomics has allowed the evaluation of a correction parameter to be applied to the global index.

The comfort evaluation model so developed is an excellent resource to refer to both in design and optimization of human machine interfaces or environments. The accuracy and practical simplicity of the instrument, in conjunction with the generality of operational contexts in which it can be used, make it sure a valid decision support.

The results presented in this discussion are for the upper limbs of the body, but the methodology can also be applied to the trunk and lower limbs. From these evaluations, appropriate correction factors may be introduced in order to evaluate the effect of the gravitational action (based on the idea of Gravity Assisted Point of method LUBA), the media arts (headrest, armrests and surfaces in general) , the balance of the posture (weight distribution, the operating conditions of the space), the type of socket, the frequency of repeated actions, the time of maintenance of posture and muscle fatigue, with a view to developing a multi parametric tool that to speed up the ergonomic product validation phase, both in terms of reduction of costs, and in terms of time optimization of the product.