



System Development Technical Group

The System Development Technical Group fosters research and the exchange of information for integrating human factors and ergonomics into the development of systems. *System development* is concerned with defining human factors activities and integrating them into the system development process in order to provide products where the human is an integral part. The focus of the SDTG is to provide methodologies for developing or modernizing human-machine systems.

TECHNICAL FOCUS

Human factors practitioners working in all areas of development of systems involving a human operator, controller, or maintainer are engaged in applied research, application, or both. The human factors and ergonomics practitioner is the primary user advocate during system development. Activities focus on the people in the system through the identification of the human's role in system operation, control, and maintenance. Goals of the practitioner include ensuring that the design promotes ease, effectiveness, efficiency, and safety of use and integrates the user as a primary component in the system. Examples of activities and methods used by the human factors and ergonomics practitioner in the development of systems include the following:

- Mission Analysis
- Function Definition and Analysis
- Task Analysis
- Human-Machine Interface Design and Evaluation
- Modeling and Simulation of the Human-Machine System
- Testing Human-Machine Interface Design

MEMBERSHIP

The SDTG consists of about 200 members who work for government, industry, and businesses where all manner of human-machine systems are analyzed, designed, tested, and evaluated. SDTG seeks to foster exchange of information and to promote the development and application of human factors data for *all* human-machine systems. Most SDTG members are also members of the Human Factors and Ergonomics Society

BENEFITS OF MEMBERSHIP

The System Development Technical Group, like other technical groups within the Human Factors and Ergonomics Society, performs a variety of functions and services for its members. In addition to sponsoring technical sessions at the Human Factors and

Ergonomics Society's Annual Meeting, the SDTG provides a forum for members to share experiences and innovative methods used in systems development. The SDTG publishes a newsletter several times a year. Information about the SDTG can be obtained by contacting HFES.

You need not be an HFES member to join the System Development Technical Group.

AREAS OF WORK

Research to resolve system-specific problems is sponsored by government and industry and focuses on improving the accuracy, effectiveness, and efficiency of defining and designing the human-system interface methodology. Examples of such systems domains include:

- Computer Systems
- Aerospace Systems
- Communication Systems
- Consumer Products
- Commercial Power Systems
- Environmental Systems
- Organizational Systems
- Perceptual Systems
- Robotic Systems
- Vehicle Systems

ADDITIONAL READING

Readers who would like to learn more about human factors and ergonomics activity in system development should consult the following references.

MIL-H-46855, *Human Engineering Requirements for Military Systems, Equipment and Facilities*.

MIL-HDBK-763, *Human Engineering Procedures Guide*.

Meister, D. (1985). *Behavioral Analysis and Measurement Methods*. New York: Wiley-Interscience.

DeGreen, K. (1970). *Systems Psychology*. New York: McGraw-Hill.

Kinkade, R. G., and Anderson, J. (1984). *Human Factors Guide for Nuclear Power Plant Control Room Development*. EPRI/NP-3659. Palo Alto, CA: Electric Power Research Institute.