BRIEF DETAILS OF COMPUTERISED PILOT SELECTION SYSTEM

A new Computerised Pilot Selection System (CPSS) was been developed by Aeronautical Development Establishment (ADE), Bangalore and Defence Institute of Psychological Research (DIPR), Delhi with a definite work share of development of entire hardware development and implementation for Psychomotor and Cognitive Systems by ADE and development of Psychomotor and Cognitive tests software by DIPR. CPSS access the flying aptitude in terms of cognitive and psychomotor skills of the candidates appearing for Pilot Selection in Indian Armed Forces by subjecting the candidates to perform concurrent multiple tasks. CPSS has replaced the earlier existing selection Pilot Aptitude Battery Test (PABT) which consists of Instrument Comprehension tests (INSB) in the form of manual objective type exams and an elementary PC based Machine Tests. The limited series production developed was evaluated by IAF and agreement was signed between IAF and DRDO (DIPR) in Aug 2010 to undertake commissioning of 20 psychomotor cockpit systems and 100 cognitive systems each along with complete associated infrastructure at Mysore, Dehradun and Varanasi.

SALIENT FEATURES:

I. The complete hardware comprising of state of art embedded systems, fibre glass based cockpit, sensors, controls were developed indigenously using Commercially Off the Shelf components, which makes the entire system completely self-reliant for longer product support.
II. ADE has developed state of art USB based membrane keyboard, microcontroller based main controller unit with dedicated device driver software. The security features have been built to prohibit unauthorized access of the system.
III. Comprehensive diagnostic software for easy fault finding and calibration has been provided.
IV. Designed modular system with plug in units at sub-assembly level for easy maintenance.
V. High reliability redundancies have been provided in servers, networking infrastructure, power supply.
VI. The systems have been developed with long term operational support required so that technology obsolescence is avoided.

SYSTEM DETAILS:

The system has been divided into two major sub-systems-

(a) Cognitive Testing sub-system - consists of 100 Nos of PC based cognitive terminals are arranged in a hall with full networking connected to the server. Each cognitive terminal has been provided with a customized membrane keyboard with OLED display.
(b) Psychomotor testing sub-system - The candidates are subjected to various tests in an aircraft simulator cockpit. In this candidates are required to operate the aircraft controls like control stick, rudder, throttle and various aural and visual warning systems.
(c) Instructor Station with projection system controls the entire operation of the tests, monitor the status of all the cognitive terminals and display the instructional videos. The projection system projects the instructions to the candidates.
(d) Cognitive and Psychomotor systems are connected to Database servers and networking infrastructure.
(e) Multimedia projection systems and DSP based audio solutions are provided for carrying out the briefing for the candidates appearing for the tests.

The system was successfully installed and commissioned which was inaugurated by the Chief of Air Staff on 28 Nov 2014 at 2AFSB Mysore. CPSS was under warranty maintenance support by ADE for 2 years till 04 Feb 2017.

CPSS PHOTOGRAPHS: