Challenges for airports

- **Demographic change**
  Airports need to handle more people on the move and also cater for an ageing population with special physical or other requirements.

- **Urbanization and globalization**
  Increasing mobility of people and goods will increase the pressure on airports and cities and call for seamless coordination of various means of transport and freight solutions.

- **Capacity limits**
  Existing infrastructure constraints require more efficient utilization of present capacities.

- **Security & Safety**
  Rising security threats will need new, advanced and better integrated security measures. Safety and health issues require continuous improvements.

- **Environment**
  The reduction of energy consumption and greenhouse gas emissions are the license for airports to grow. Sustainable resource utilization is the key to success.
Every day, airport operators face the challenging responsibility of ensuring punctuality and process efficiency on the one hand and, on the other, guaranteeing the security of passengers, personnel, goods and infrastructure in a growing, often capacity constraint industry.

In the future, passengers and cargo will need to be handled faster and aircraft ground time further reduced. In addition, the pressure of increased competition and rising passenger expectations mean that airports need to be made more comfortable and attractive.

Passenger handling and convenience
Passengers expect a trouble-free journey, regardless of what kind of problems may occur. Increasingly, innovative parking solutions, off-site airport check-in solutions — such as city-check-ins at train stations – self-service bag drops, location-based services and intermodal transport offerings are becoming key differentiators between airports.

Baggage and cargo handling
is one of the core activities of an airport. Siemens offers a wide variety of technologies for the efficient handling of luggage and cargo items. Reliable and fast baggage handling reduces waiting and travel times for passengers. Proven and energy-efficient products make for lower maintenance costs and energy consumption.

Total building solutions
go beyond classic building automation. Total building solutions mean the integration of all building-related systems, such as HVAC (heating, ventilation and air conditioning), lighting, access control, fire protection and announcement systems. This ensures optimum efficiency in building design and operation, to reduce capital expenditure and operational costs.

Security and safety
Command and control systems look at the demands of an airport as a whole – covering wide-area surveillance around the perimeter and on the airfield, security systems in the terminal and fire safety to make day-to-day operations easier and more reliable. Central and integrated systems offer the potential for further cost reductions and increased efficiency.

Information technology telecommunication (IT)
Airports are moving away from today’s silo approach in which standalone IT systems are hardly integrated. In future, the various IT systems will be connected via real-time and flexible integration platforms, and the whole operational aircraft turnaround, passenger and baggage handling process will be considered a single task. Information sharing among the stakeholders is crucial to ensure efficient processes and passenger centric services.

Additional IT solutions, e.g. for asset, maintenance and workflow management, will improve efficiency even further.

Utilities
A wide variety of systems are vital to airport operation. These are reliant on medium- and low-voltage power supplies and energy generation on site, e.g. photovoltaics, combined heat and power plants with tri-generation (electricity, heat, cooling). An overall energy management system, including electrical energy, water, waste water and gas, will reduce consumption and CO2 emissions.

Value-added services
In order to support our airport customers even further, Siemens offers a range of additional services beyond its main products and solutions.

- Green airports – a holistic approach to increase energy efficiency and reduce CO2
- Efficient airports – a strategy to increase overall airport efficiency and performance
- Simulation of passenger flows, security scenarios, crowd management, etc.
- Performance contracting and energy management services
- Financial and contractual services
- Audits for building, lighting, energy and security

These services will enable airports to optimize their performance even more.
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The information in this document contains general descriptions of the technical options available, which do not always have to be present in individual cases. The required features should therefore be specified in each individual case at the time of closing the contract.

Answers.
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