UT-BATTELLE

Welcome to ORNL and SNS/HFIR Update

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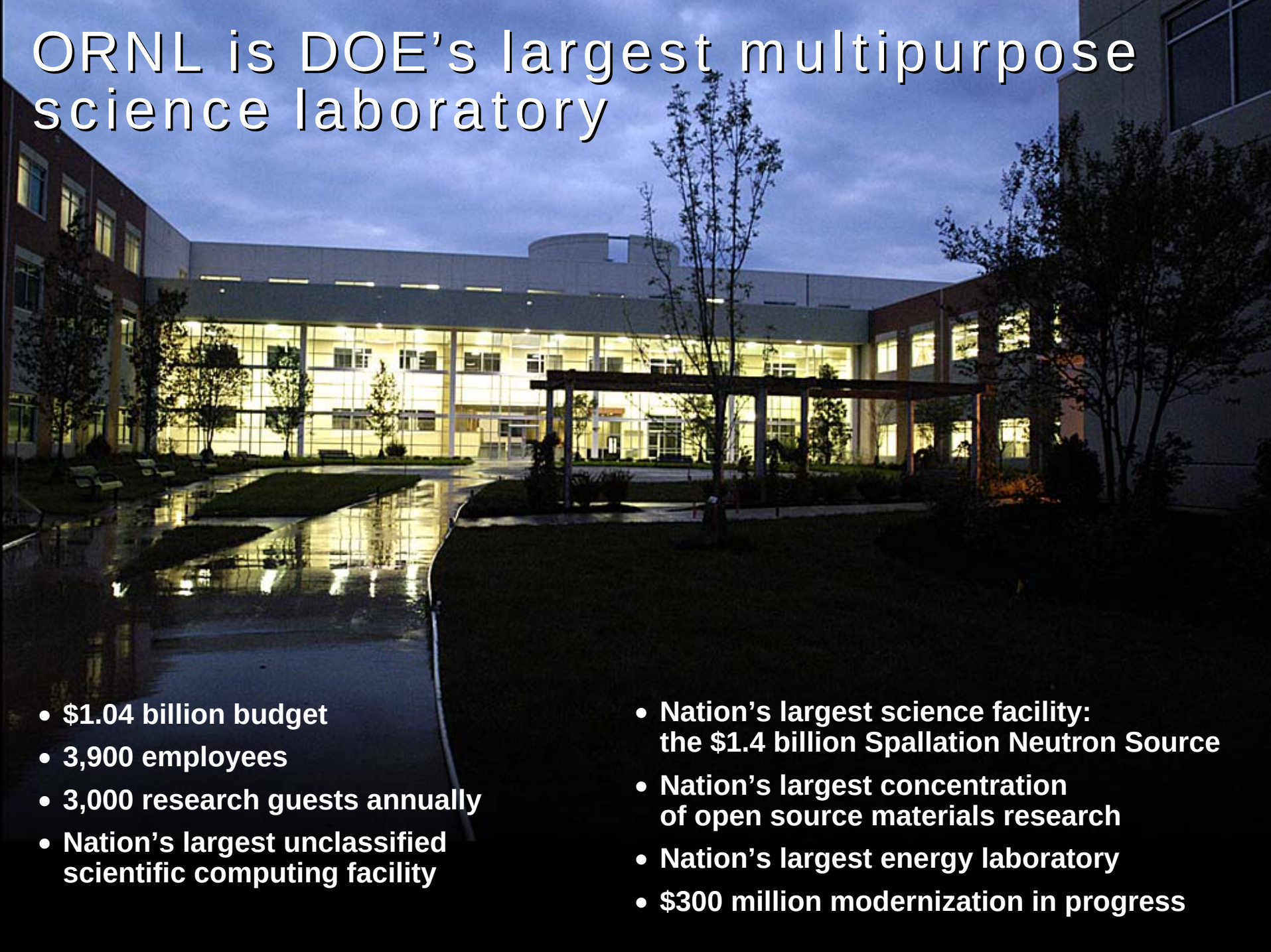
OAK RIDGE NATIONAL LABORATORY
U. S. DEPARTMENT OF ENERGY

ORNL is DOE's largest multipurpose science laboratory



- **$1.04 billion budget**
- **3,900 employees**
- **3,000 research guests annually**
- **Nation's largest unclassified scientific computing facility**

- **Nation's largest science facility: the $1.4 billion Spallation Neutron Source**
- **Nation's largest concentration of open source materials research**
- **Nation's largest energy laboratory**
- **$300 million modernization in progress**

ORNL has six primary mission roles

- **Delivering and sustaining the world's foremost center for neutron scattering**
- **Leadership in computational science and engineering at scale**
- **Sustained leadership in materials science through discovery, synthesis, and characterization of materials at the nanoscale**
- **Leadership in microbial biology and proteomics, producing bio-based solutions to energy challenges and enabling the new field of "ecogenomics"**
- **Leadership in energy technology through science**
- **Applying our S&T base to deliver "first-of-a-kind" security technologies and implement arms control and nonproliferation programs**

Neutron science cross-cuts all of our mission areas

Neutron scattering
World's foremost center

Initiative intent

Sustained world leadership in the scientific and technological impact of neutron scattering, and in the facilities and instruments that enable that impact

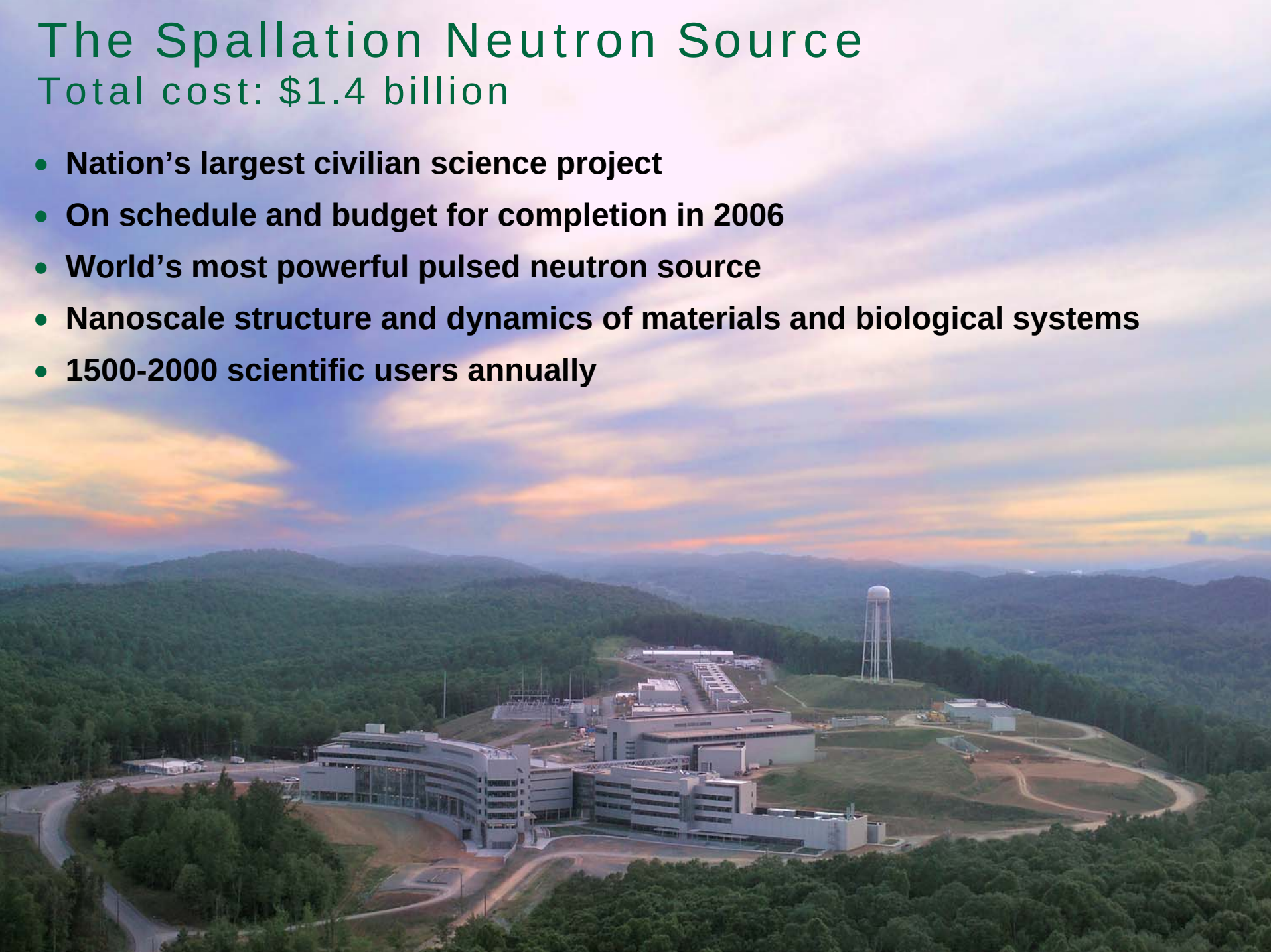
Strategy

- **Deliver the world's most capable neutron scattering center (SNS and HFIR)**
- **Extend our leadership with new instruments, the SNS power upgrade, and the long-wavelength target station**
- **Provide supporting capabilities across the disciplines**
- **Field a world-class user program: Happy users, great science**

The Spallation Neutron Source

Total cost: $1.4 billion

- **Nation's largest civilian science project**
- **On schedule and budget for completion in 2006**
- **World's most powerful pulsed neutron source**
- **Nanoscale structure and dynamics of materials and biological systems**
- **1500-2000 scientific users annually**



High Flux Isotope Reactor

- **World's highest steady-state thermal neutron flux**
- **Extensive infrastructure upgrades ongoing**
- **New and upgraded neutron scattering instruments**
  - **Thermal instruments are meeting or exceeding performance expectations**
  - **High brightness cold source and world class SANS instruments in 2006**
- **Seamless integration with SNS**
- **Installation and testing of cold source will necessitate a shorter user cycle in 2006**

HFIR showing new guide hall

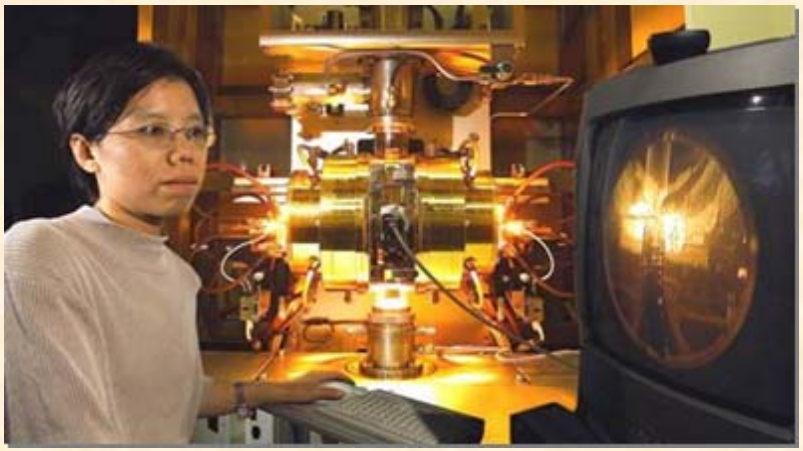
Installation of SANS instruments

Related programs and facilities

Center for Nanophase Materials Sciences (multidisciplinary nanoscale research)

Center for Computational Sciences (terascale simulation)

Joint Institute for Neutron Sciences (2007)
User housing facility (2008)



Other science programs (materials synthesis, biology, etc.)

We are committed to delivering world-leading capabilities to the user community

- **Predictable operation at high availability**
- **Sustained upgrade program for best-in-class facilities and instrumentation**
- **World class user support**
- **Coordinated access to related ORNL facilities and capabilities**
- **Extending neutron scattering to new disciplines and communities**
- **Effective interaction with user groups**

We need your input