

# Director's Update

**Visiting Committee on Advanced Technology  
October 18-19, 2011**

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**Dr. Patrick Gallagher**

**Under Secretary of Commerce for Standards and Technology and  
NIST Director**

# Changes at Commerce: Leadership

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**John Bryson** has been nominated as new Secretary

- Chairman and CEO Edison International
- Co-founder, Natural Resources Defense Council
- Board Member Walt Disney, Boeing, other corporations
- Nomination has moved to Senate Floor

**Rebecca Blank**, Undersecretary for Economic Affairs, is currently the acting Secretary



# Changes at NIST: Leadership



**Willie May**  
AD for Laboratory Programs



**Michael Molnar**  
Chief Manufacturing Officer



**George Jenkins**  
Chief Financial Officer

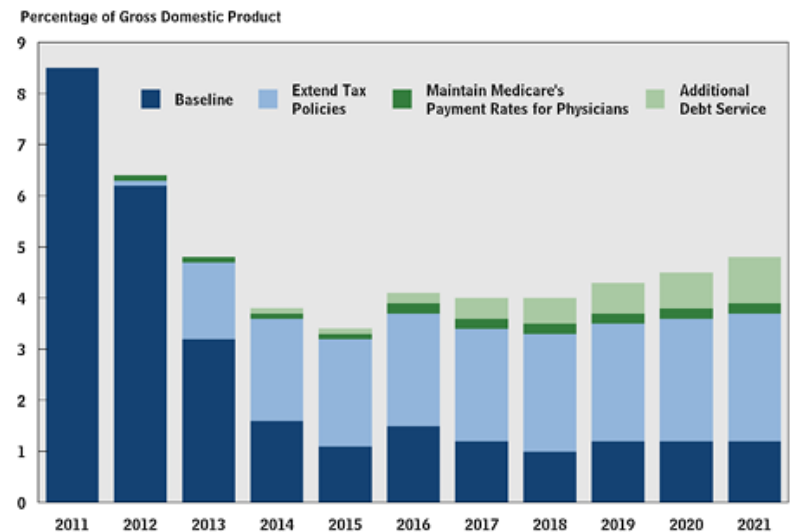
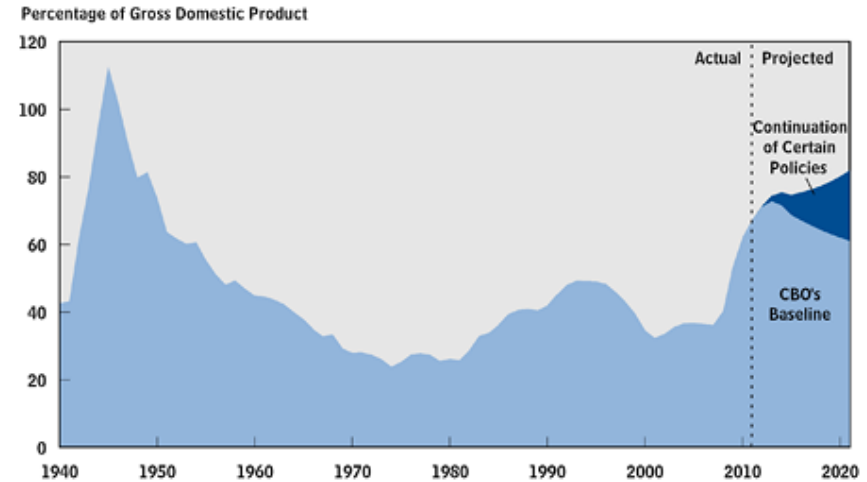
## Standards policy

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- NSTC Subcommittee on Standards Report on *Federal Engagement in Standards Activities to Address National Priorities* released Oct. 2011.
  - Provides an overview of current legal and policy frameworks for government engagement in private-sector standardization and conformity-assessment activities
  - Summarizes stakeholder observations in response to the Dec. 2010 RFI issued by NIST
  - Outlines policy recommendations to supplement existing guidance to agencies.
- Report illustrates the role of government in the development of private sector standards in cybersecurity, smart grid, health IT, and public safety communications, which are key to broad deployment of advanced technology in these sectors.

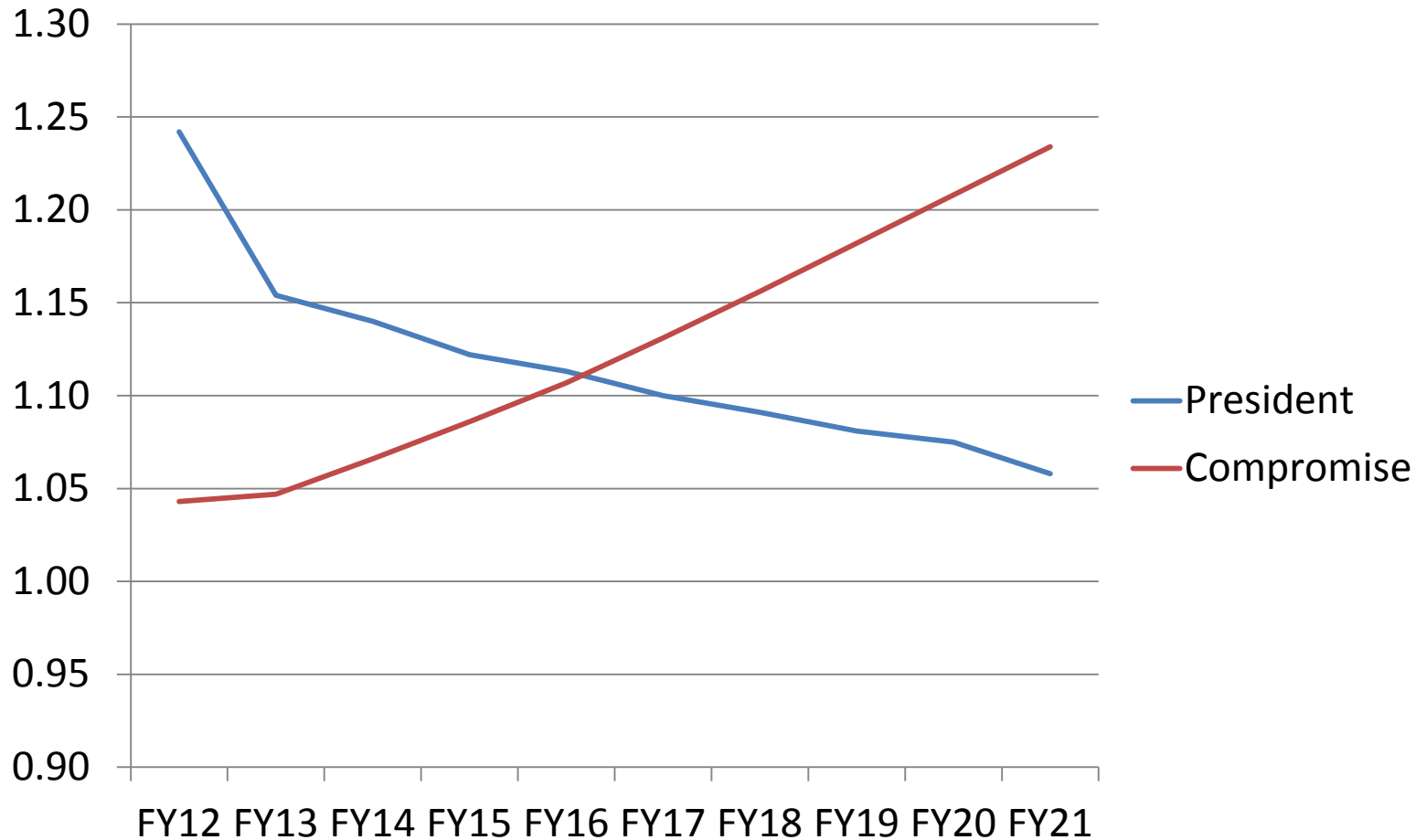
# Budget Control Act

- Agreement immediately enacted 10-year discretionary spending caps, resulting in \$1T in deficit reduction (balanced between domestic and defense programs).
- Bipartisan committee tasked with identifying and recommending an additional \$1.5T in deficit reduction to be phased in beginning in FY13, will be considering entitlements and tax reform.
- If committee is unable to agree to deficit reductions, automatic spending reductions (balanced between domestic and defense programs) will be triggered in FY13.

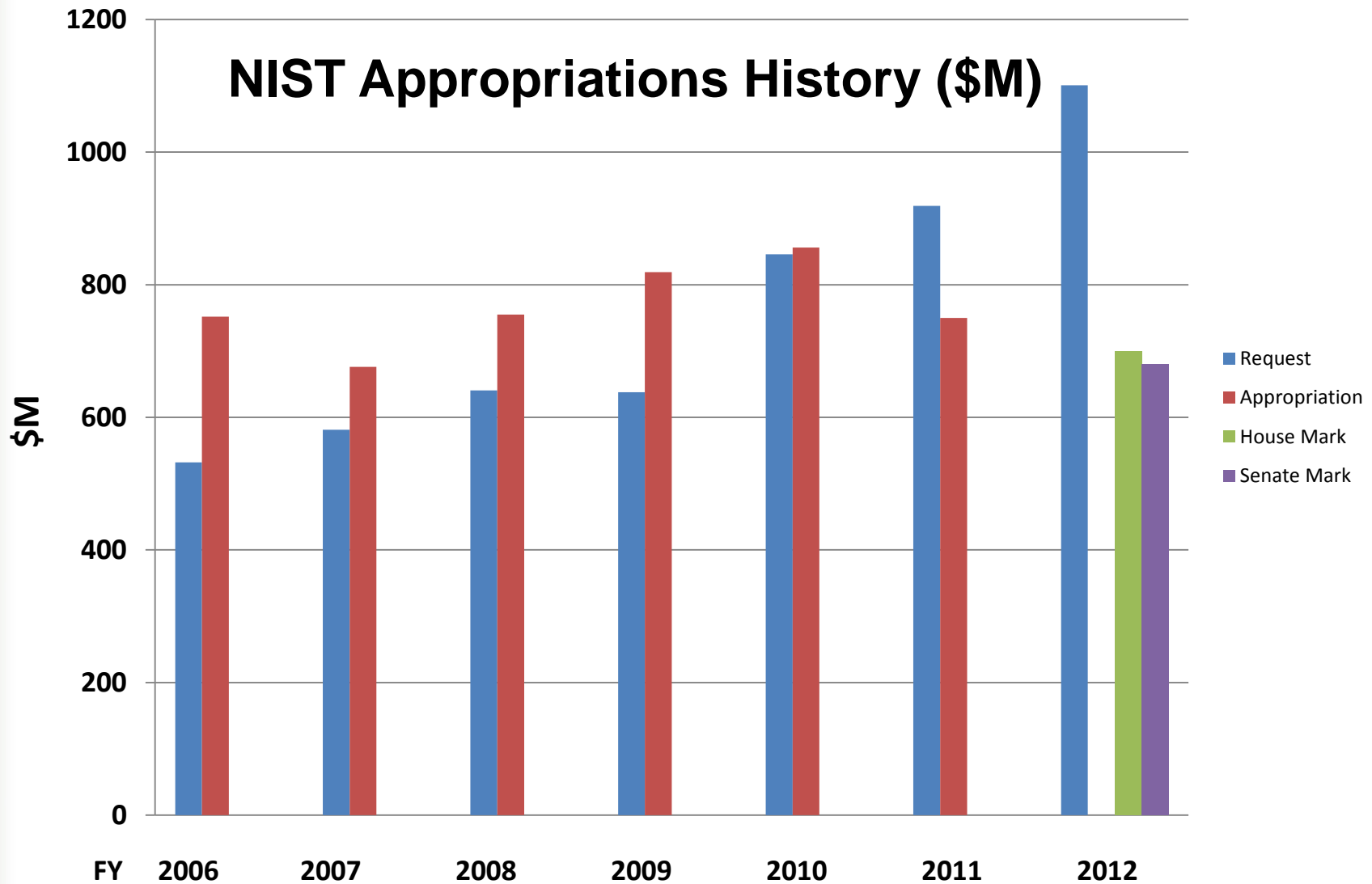


# Budget Control Act

## Non-defense Discretionary Spending (\$T) Comparison



# NIST Budget Trends FY 2006 – FY 2012





# NIST FY 2010 – FY 2012 Budget Summary

|                                  | FY 2010<br>Enacted | FY 2011<br>Enacted           | FY 2012<br>Request | FY 2012<br>House<br>Mark | FY 2012<br>Senate<br>Mark    |
|----------------------------------|--------------------|------------------------------|--------------------|--------------------------|------------------------------|
| <b>STRS</b>                      | <b>\$515.0</b>     | <b>\$497.4</b> <sup>1/</sup> | <b>\$678.9</b>     | <b>\$517.0</b>           | <b>\$500.0</b> <sup>2/</sup> |
| Laboratory Programs              | 494.9              | 463.2                        | 630.2              |                          |                              |
| Baldrige Perf. Excellence        | 9.6                |                              |                    |                          |                              |
| Corporate Services               | 16.8               | 18.8                         | 19.5               |                          |                              |
| Stds Coord. and Spec. Prgs.      |                    | 15.4                         | 29.2               |                          |                              |
| <b>Δ from FY 2011 Enacted</b>    |                    |                              | <b>181.5</b>       | <b>19.6</b>              | <b>2.6</b>                   |
| <b>ITS</b>                       | <b>\$194.6</b>     | <b>\$182.8</b> <sup>1/</sup> | <b>\$237.6</b>     | <b>\$128.4</b>           | <b>\$120.0</b>               |
| Advanced Manu. Tech. Consort.    |                    |                              | 12.3               |                          |                              |
| Technology Innovation Prg.       | 69.9               | 44.8                         | 75.0               |                          |                              |
| Baldrige Perf. Excellence Prg.   |                    | 9.6                          | 7.7                |                          |                              |
| Hollings Manuf. Ext. Prg.        | 124.7              | 128.4                        | 142.6              | 128.4                    | 120.0                        |
| <b>Δ from FY 2011 Enacted</b>    |                    |                              | <b>54.8</b>        | <b>(54.4)</b>            | <b>(62.8)</b>                |
| <b>CRF</b>                       | <b>\$147.0</b>     | <b>\$69.9</b>                | <b>\$84.6</b>      | <b>\$55.4</b>            | <b>\$60.0</b> <sup>3/</sup>  |
| Const. & Major Renovations       | 22.0               | 12.0                         | 25.4               | 25.4                     | 0.0                          |
| Saf. Cap., Maint., Maj. Repairs  | 58                 | 57.9                         | 59.2               | 30.0                     | 60.0                         |
| Competitive Const. Grant Prg.    | 20                 |                              |                    |                          |                              |
| Congressional Projects           | 47                 |                              |                    |                          |                              |
| <b>Δ from FY 2011 Enacted</b>    |                    |                              | <b>14.7</b>        | <b>(14.5)</b>            | <b>(9.9)</b>                 |
| <b>Total, NIST Discretionary</b> | <b>856.6</b>       | <b>750.1</b>                 | <b>1,001.1</b>     | <b>700.8</b>             | <b>680.0</b>                 |
| <b>Δ from FY 2011 Enacted</b>    |                    |                              | <b>251.0</b>       | <b>(49.3)</b>            | <b>(70.1)</b>                |
| <b>PSIF</b>                      | <b>\$0.0</b>       | <b>\$0.0</b>                 | <b>\$100.0</b>     | <b>\$0.0</b>             | <b>\$0.0</b>                 |
| Public Safety Innovation Fund    |                    |                              | 100.0              |                          |                              |
| <b>Total NIST</b>                | <b>\$856.6</b>     | <b>\$750.1</b>               | <b>\$1,101.1</b>   | <b>\$700.8</b>           | <b>\$680.0</b>               |

<sup>1/</sup> Adjusted transfer of Baldrige Perf. Excellence Prg. from STRS to ITS after the approval of NIST reorganization in FY 2010.

<sup>2/</sup> Senate report language stipulates \$10M for National Cybersecurity Center of Excellence (NCCOE) and \$24M for National Strategy for Trusted Identities in Cyberspace.

<sup>3/</sup> Report language says the \$60M is for both highest-priority construction and SCMMR.



# 24<sup>th</sup> General Conference on Weights and Measures (CGPM)

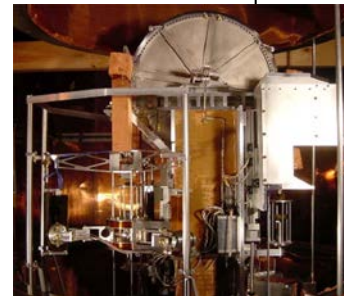
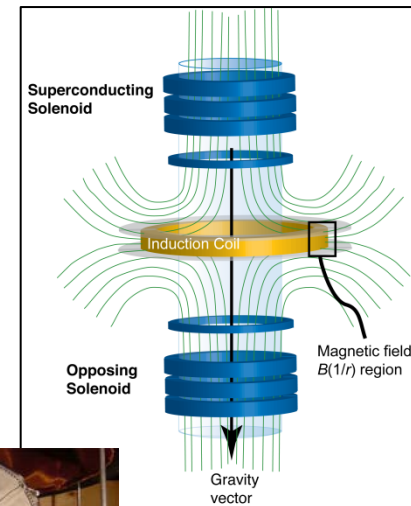
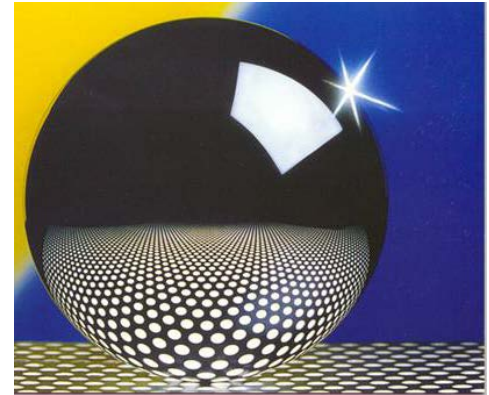


- CGPM is held in Paris every four years to discuss and examine issues related to the propagation and improvement of the International System of Units (SI), including new fundamental metrologies.
- Technical Issues for this meeting:
  - Setting the stage for a future revision of the SI
  - Placing measurements for monitoring climate change on an SI traceable basis
  - Revision of the *mise en pratique* of the meter and development of new optical frequency standards
  - Adoption of a common terrestrial reference system



# NIST and the new SI

- Efforts are underway to switch from an artifact-based definition of the kilogram to one based on a fundamental constant.
- Two different approaches are in progress at NIST:
  - International Avogadro Project: Redefinition of Avogadro's Number ( $N_A$ ) on the basis of number of atoms in a silicon crystal sphere; total relative uncertainty must be  $\leq 1 \times 10^{-8}$  to be relevant to realization of the kilogram.
  - Watt-balance experiment: Calculation of Planck's constant,  $h$ , by balancing gravity with an electromagnetic force.



# Recognition of NIST Staff

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**Dr. John Cahn**  
**2011 Kyoto Prize for Fundamental  
Contributions to Materials Science**

**Dr. Dan Shechtman**  
**2011 Nobel Prize in Chemistry**

