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PRISME FORUM

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Data Visualization

A PICTURE SAYS A 1000 TERABYTES

Key messages

- Visualization enables greater cognitive understanding of complex datasets – finding signal in the noise, seeing patterns
- New visualization tools extend BI and Analytics to a wide array of users across the organization
- New data visualization tools enable more ad-hoc and iterative types of analysis than traditional structured BI reports as they are interactive
- Visualization is only valuable if data quality is assured

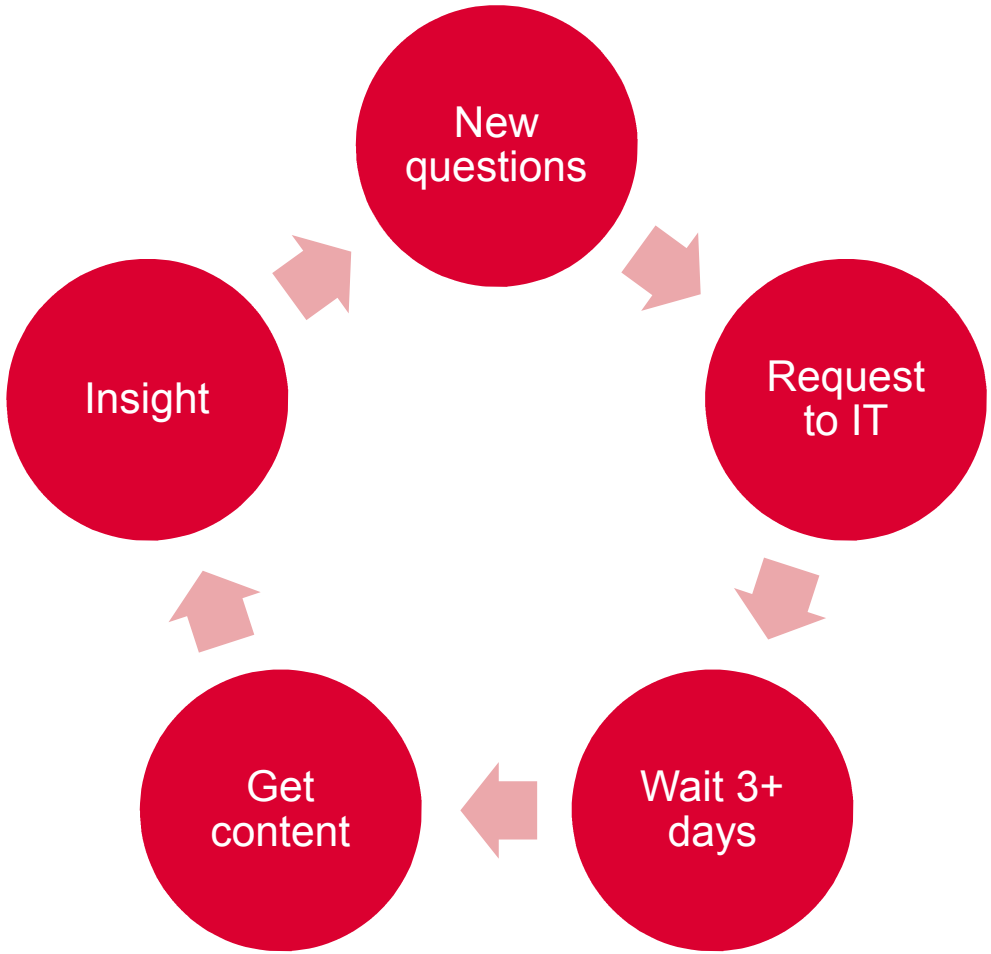
Key messages continued

- Strong data governance and data management is a must to underpin data visualization
- Merging of visualization and advanced analytics (such as SAS Visual Analytics and Tibco Spotfire)
- Greater adoption of new data discovery technologies and in memory technology, but will augment existing Business Intelligence technologies not replace

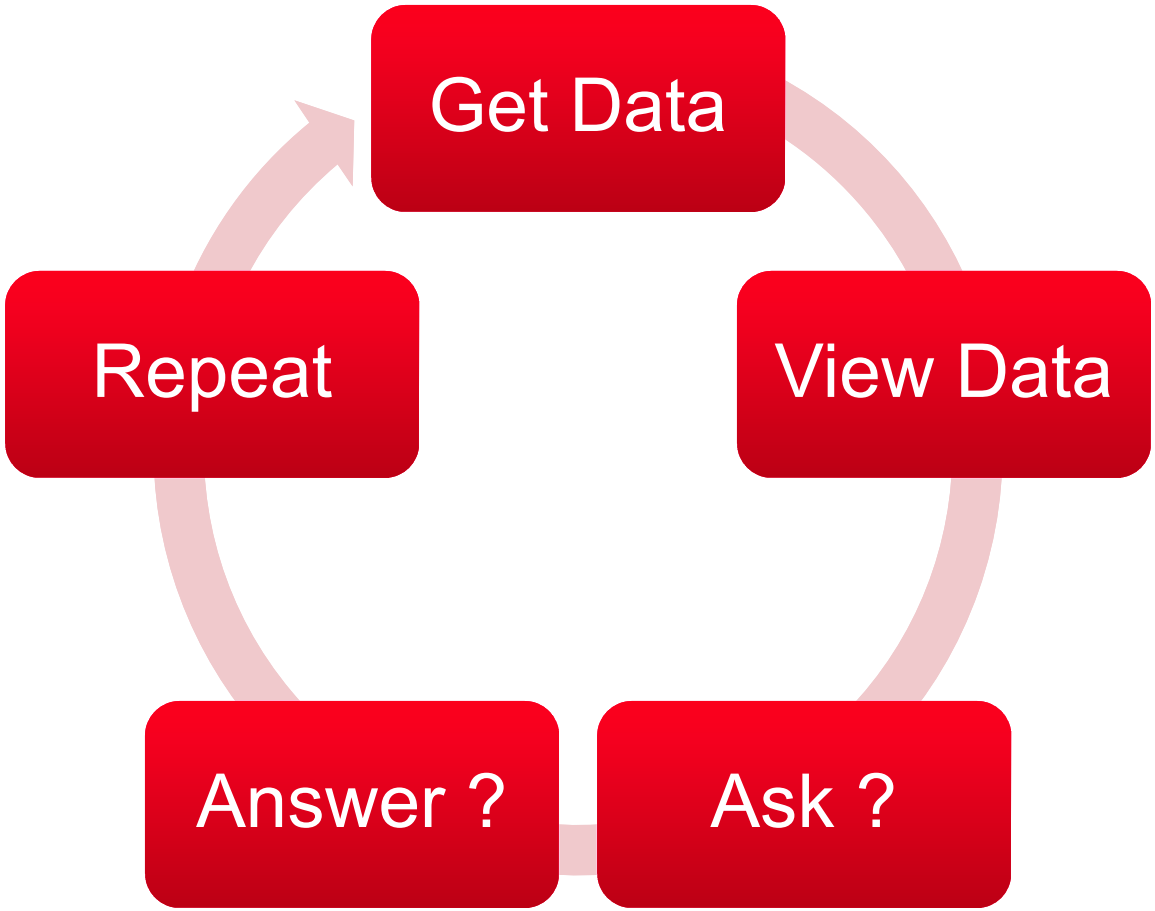
New visualization tools

- Trend is from traditional structured BI reports to visual discovery
- Using visual tools 48% of business intellligence users were able to find the information they need without the help of IT departments versus 23% without visual discovery tools
- New visualization tools democratize enterprise data beyond the traditional BI users (Managers and power users)
- Easy to use interfaces without the need for sophisticated programming languages lowers the bar for greater adoption (Visual Analytics)

Traditional BI doesn't cut it

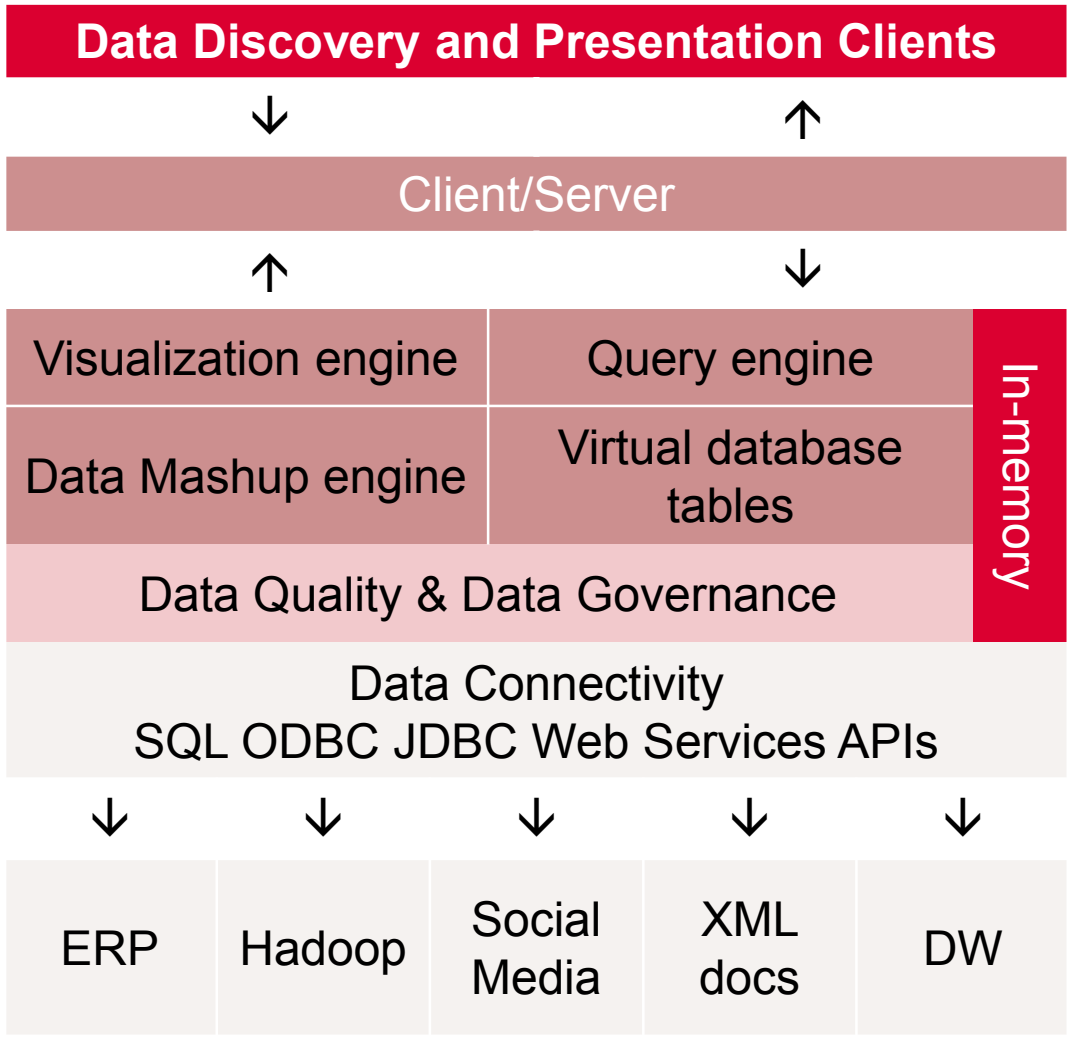


Cycle of visual analytics



The DNA of a self-service solution

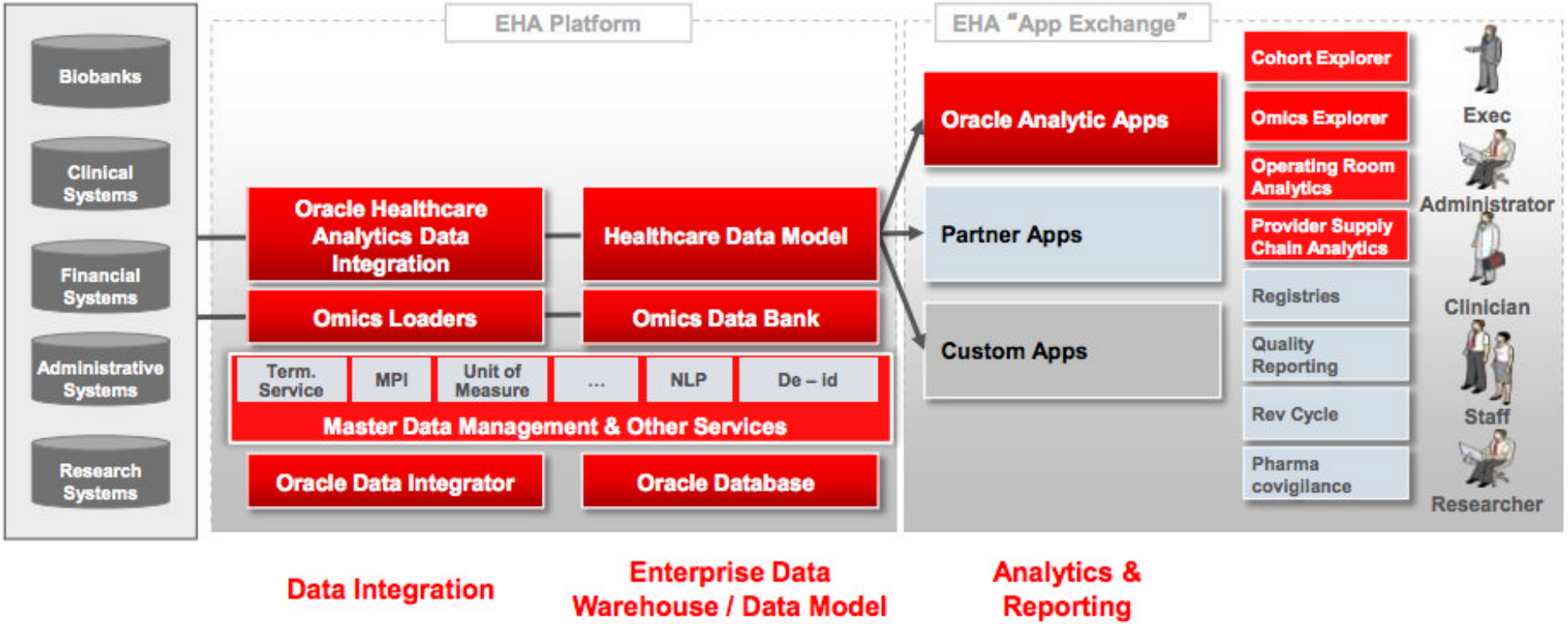
- Hallmarks:
  - In-memory engine
  - Collaborative
  - Adv. data visualizations
  - Data Mashup
  - Robust data governance



Big Data

- Blending of small datasets to create large datasets of diverse data types structured versus unstructured data
- As data volumes grow so will the potential for data quality issues particularly with the blending of internal and external data
- Large data volumes will require greater data management automation through the use of data management tools

Example of a data integration platform for visualization and analytics



Implications for IT Departments

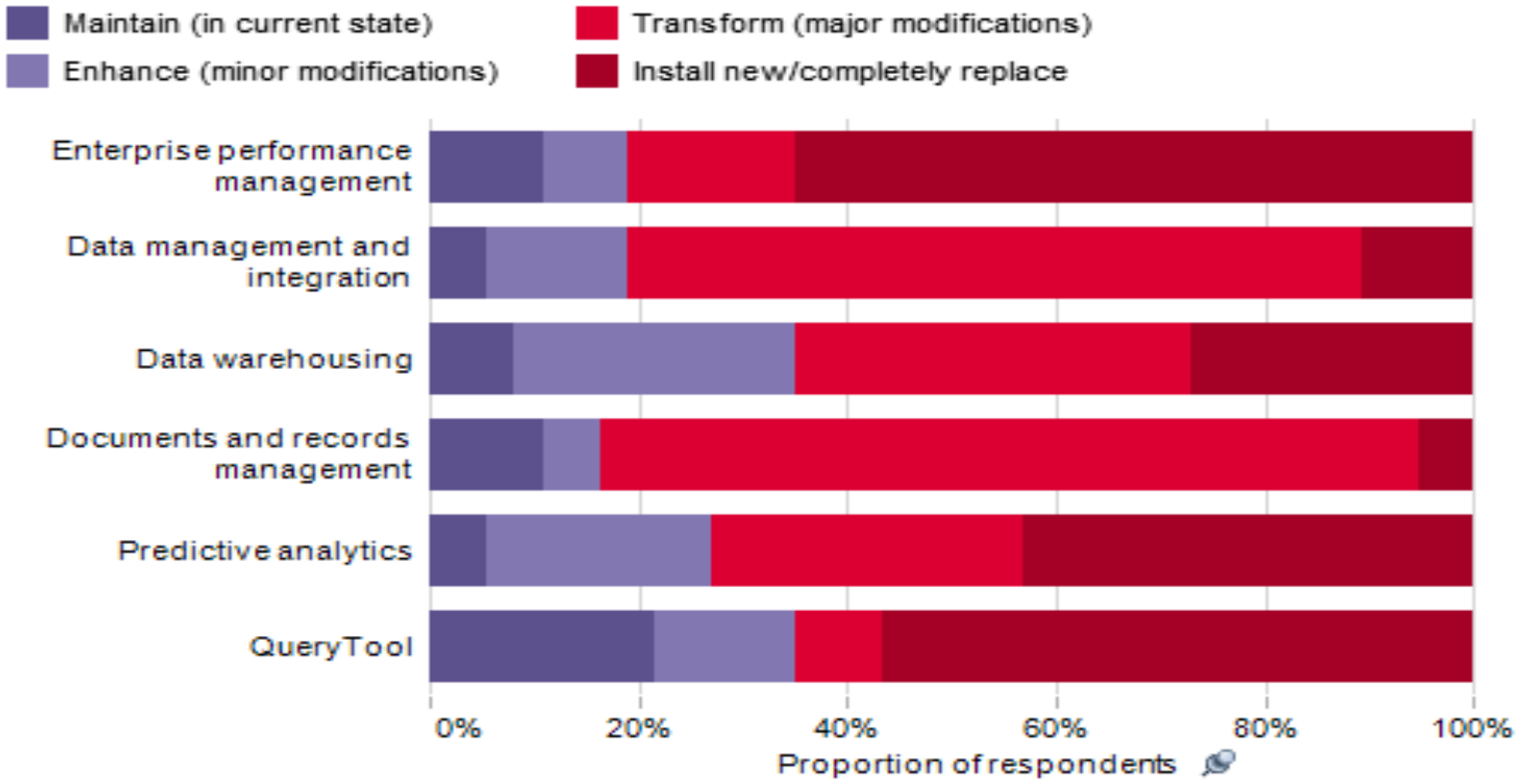
- Self-service BI less reliance on centralized IT department
- New inftrastructure and technologies will need to “live” beside and augment existing/traditional technology
- Blending of internal and external data will require strong data governance culture
- Big and Fast data will bring new infrastructure demands
- New skills requirements will need to map to existing resources and skill sets (can’t replace the entire IT staff)
- Managers need to get the balance right between centralized IT control and autonomy for end users

Consequences of Bad Data

- Bad Data costs organizations approximately 30% of revenue
- 15-18% of budgets are wasted correcting data inaccuracies
- Bad data results in lost efficiency through poor decision making
- Therefore data governance and data management are priorities and this applies to the life sciences industry as well.

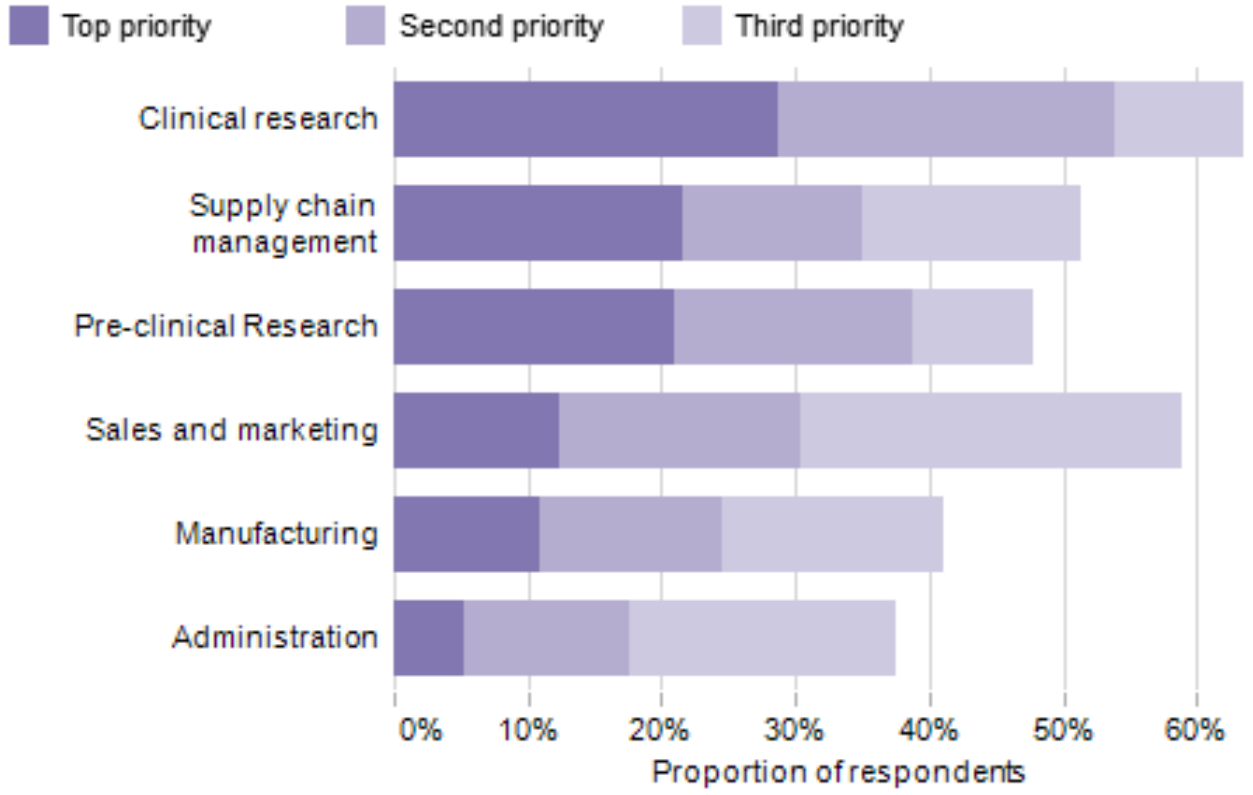
SURVEY DATA

US based Big Pharma information management spending plans



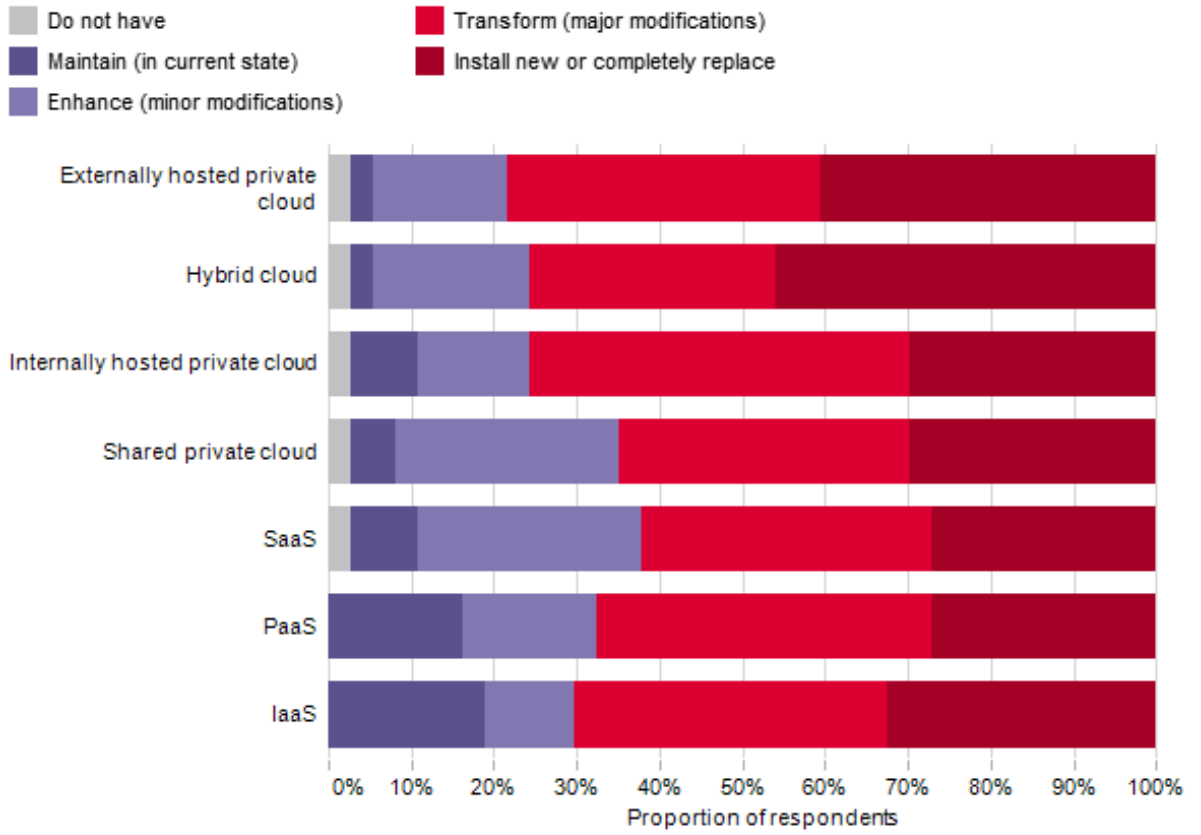
Sample size: 37
Question: What are your investment plans for the above during the next 18 months?
Countries: United States. Vertical: Life Sciences/Pharmaceuticals. Sub-vertical:Pharmaceutical company (Discovering and developing new drugs). Enterprise size: All.

Drug development stage with highest priority IT projects



Sample size: 323
Question: In what business areas will your top 3 IT projects be during the next 18 months in terms of total investment value?
Vertical: Life sciences. Life sciences org type: All. Country: All. Enterprise size: All

Life sciences survey respondents cloud investment priorities



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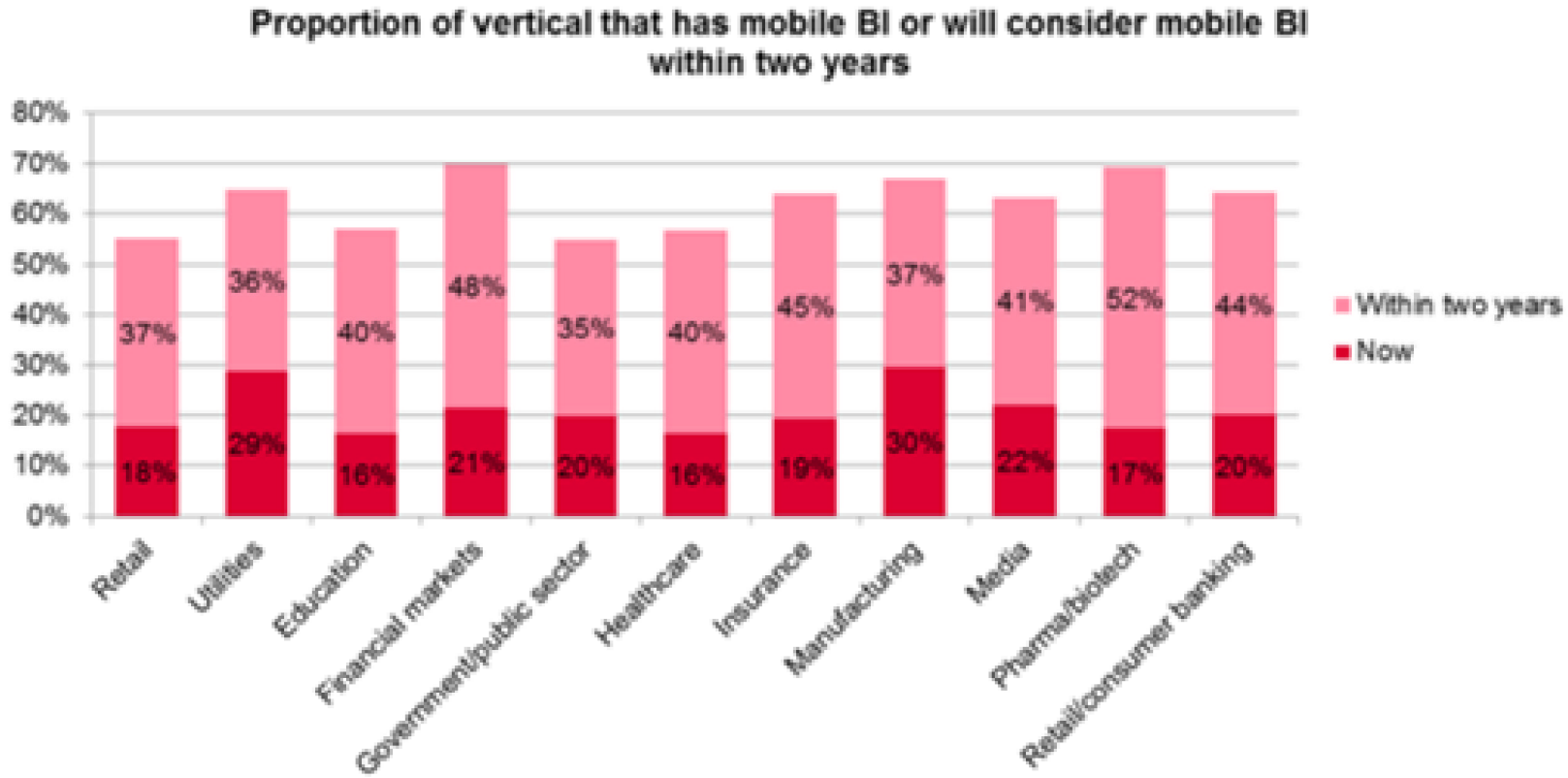
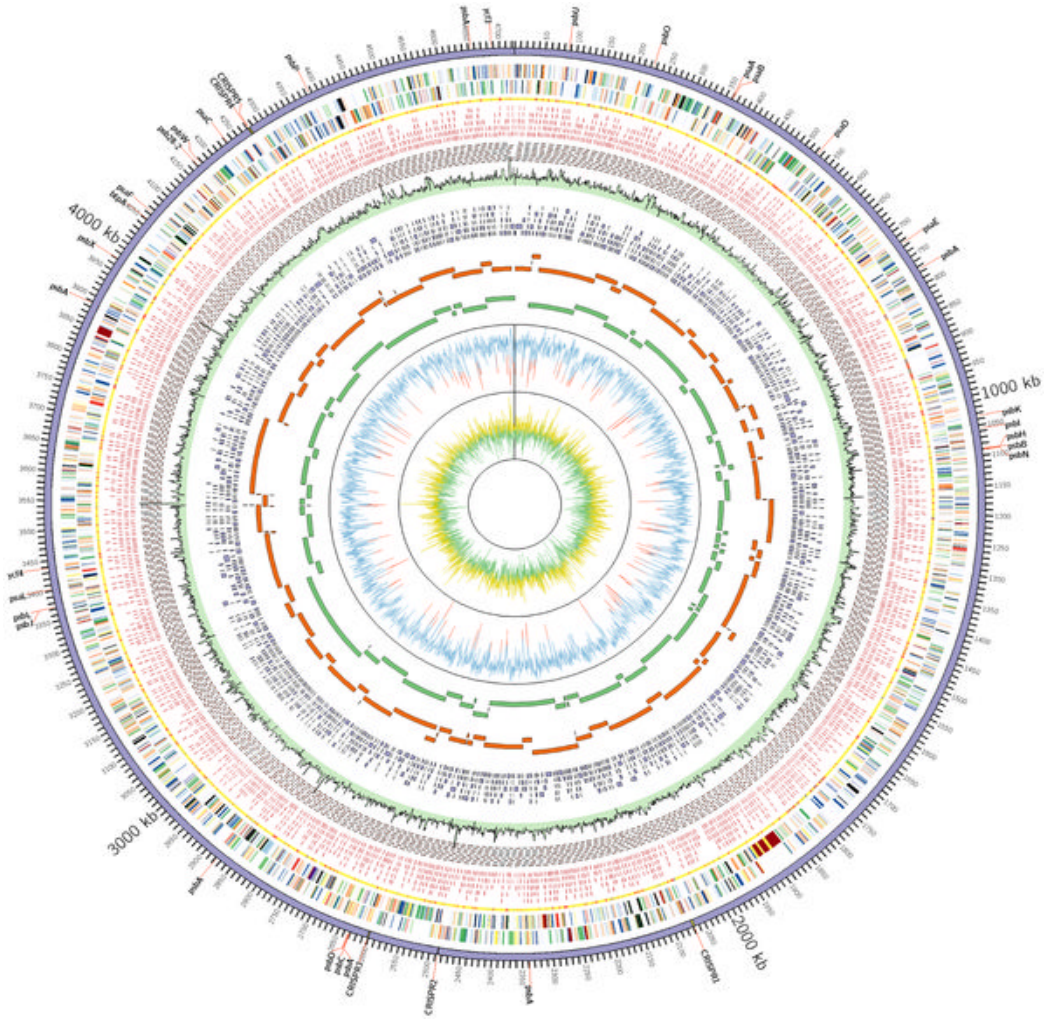
Mobile BI is a growing



VISUALIZATION EXAMPLES

Figure 2. Circular representation of the Gloeobacter kilaueensis JS1T genome.



Saw JHW, Schatz M, Brown MV, Kunkel DD, et al. (2013) Cultivation and Complete Genome Sequencing of Gloeobacter kilaueensis sp. nov., from a Lava Cave in Kīlauea Caldera, Hawai'i. PLoS ONE 8(10): e76376. doi:10.1371/journal.pone.0076376 http://www.plosone.org/article/info:doi/10.1371/journal.pone.0076376

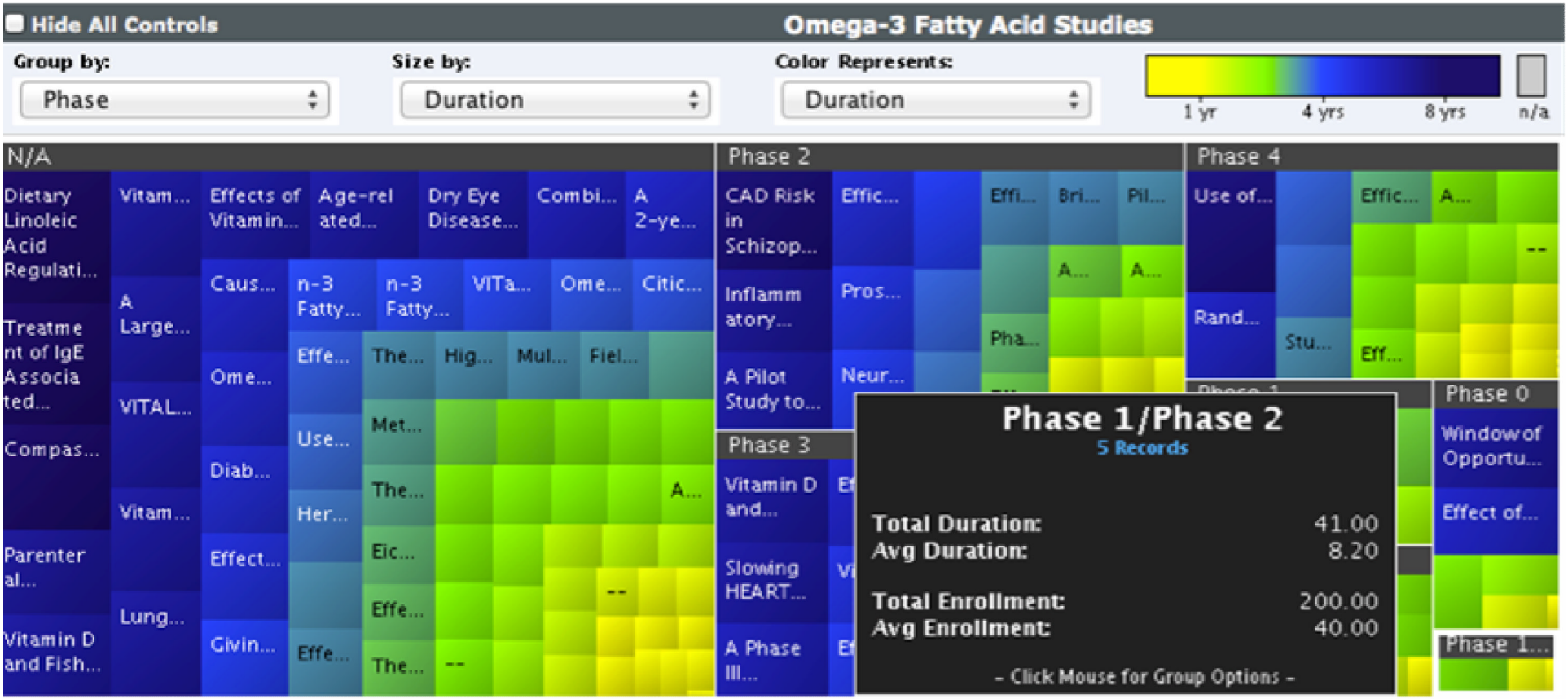
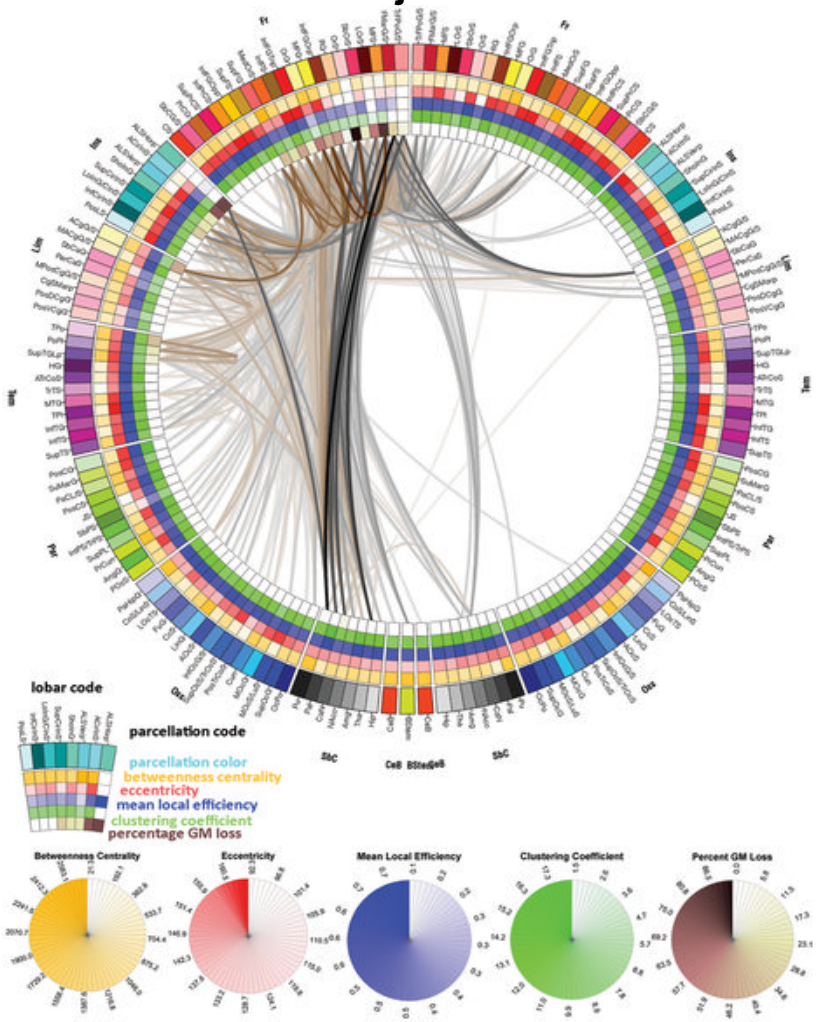


Figure 3. Mean connectivity affected by the presence of the tamping iron combined across subjects.



Van Horn JD, Irimia A, Torgerson CM, Chambers MC, et al. (2012) Mapping Connectivity Damage in the Case of Phineas Gage. PLoS ONE 7(5): e37454. doi:10.1371/journal.pone.0037454
http://www.plosone.org/article/info:doi/10.1371/journal.pone.0037454