Looking to the Future

Purpose

- Future planning is key for any business
- We want to assist you with future planning
- The Business Advantage Group is an international market research, data, sales development and consulting practice specializing in the CAD/CAM/CAE/PDM/PLM sectors

Methodology

- Annual Online survey in Nov, 2014. Data comparison with Dec, 2013 survey results
- The survey was managed from our offices in London and San Francisco, drawing respondents from our in-house data repository of over 500,000 CAD/CAM users and decision makers and other data sources
- 635 CAD users & decision makers across a range of company sizes and industries worldwide took part

Get Involved

- 15 Topics and their perceived importance, actual and future usage related to CAD were captured, enabling us to identify key trends in the CAD sector now and over the next five years
- Please take a look at our top line results and let us know if you agree or disagree with our predictions. We would love to hear your thoughts
**Key Topics**

15 Key CAD trends were identified for the survey this year compared to 14 Key CAD trends last year, enabling us to do year-on-year comparison

- A series of questions were asked about each of the 15 CAD trends to get a better understanding of **Awareness**, **Perceived Importance**, **Current Usage** and **Future Usage**

<table>
<thead>
<tr>
<th>Q. Awareness</th>
<th>Q. Perceived Importance</th>
<th>Q. Current and Future Usage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Q: Which of the following leading trends are you familiar with or have heard of?</td>
<td>Q: Thinking about your core business functions, to what extent do you see each of these as an important trend to your company?</td>
<td>Q: Thinking about these trends again what do you/your company already use in-house at the moment? and...</td>
</tr>
<tr>
<td>A prompted list was shown and respondents were asked to select all response options that apply</td>
<td>A rating scale of 1 to 10 used, where 1 is not at all important and 10 is extremely important to your company</td>
<td>...plan on using in-house within the next 12 months?</td>
</tr>
<tr>
<td></td>
<td></td>
<td>... plan on using in-house within the next 3-5 years?</td>
</tr>
</tbody>
</table>
The 2015 Survey Audience N=635

- Small (1)
- Medium (2)
- Large (3)

- Around 1 in 3 respondents are managers in their company
- Even split between EMEA & North America
- 7 in 10 are SMEs

Respondents’ Profile:

- Managers: 36%
- Designers: 23%
- Engineers: 19%
- Executives: 7%
- IT/IT Managers: 3%
- Other: 11%

Sector:

- Manufacturing: 33%
- AEC: 30%
- Process and Plant: 11%
- Utilities: 6%
- Education: 4%
- Government: 3%
- Other: 12%

1. Small (up to 50 employees)
2. Medium (50-1,000 employees)
3. Large (over 1,000 employees)
Key Trends Overview

Section One
Q. Which of the following leading trends are you familiar with or have you heard of? (Base: All – 635)
Q. Thinking about these trends again what do you/your company already use in-house at the moment? (Base: All – 635)
Increase in Awareness Over Time

CURRENT TREND SNAPSHOT - AWARENESS

- As trends become more entrenched in the market, awareness increases and all trends are up year-on-year

Q. Which of the following leading trends are you familiar with or have you heard of? (Base: All: 2014 - 409, 2015 – 635)
Increase in Usage Over Time

CURRENT TREND SNAPSHOT - USAGE

- Similar to an increase in the awareness y-on-y, we see an increase in the usage of most areas in 2015

Q. Thinking about these trends again what do you/your company already use in-house at the moment?
Base: All: 2014 – 409, 2015 - 635

Bold font - Significant shifts y-on-y @95% levels

Were this procedure to be repeated on multiple samples, assuming other variables are the same, 19 out of 20 times we should get similar results
Some CAD trends are significantly more important to particular sectors, regions and company types...

- PDM is significantly more important in large companies
- Simulation in Manufacturing
- PLM in APAC and large companies
- Understandably, BIM in AEC
- 3D Printing in Manufacturing and large companies
- Open Source CAD software in EMEA, APAC and small companies
- Outsourcing overseas in large companies
Importance Ranking Over Time

Most CAD Trends are stable y-on-y in terms of their importance ratings especially those with high importance ratings however,

- Advanced Real Time Rendering and 3D Printing followed by Concurrent Engineering and Pay As You Go have gained on importance year-on-year.
Snapshot of Usage and Importance

**2015 USAGE AND IMPORTANCE**

- Plotting perceived importance of trends against current usage
- The market is still strongly focused on 3D modelling however,
  - there are a number of trends following on which will become increasingly key for CAD software/solution providers

Q. Thinking about your core business functions, to what extent do you see each of these as an important trend to your company? (Base: All aware of each – 94-555) Q. Thinking about these trends again what do you/your company already use in-house at the moment? (Base: All – 635)
Looking to the Future

**PREDICTED USAGE**

<table>
<thead>
<tr>
<th>Current usage</th>
<th>Additional usage in 1 year</th>
<th>Additional usage in 3-5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>3D modelling</td>
<td>Simulation</td>
<td>PDM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- Good growth potential for **3D Printing** (particularly in manufacturing) and **mobile access to CAD** (particularly in AEC)
- Growth potential for **Cloud based CAD** (particularly in AEC) but below average current usage

Q. Thinking about these trends again what do you/your company already use in-house at the moment? Q. Which of these do you/your company plan on using in-house within the net 12 months? / ... within the next 3-5 years? (Base: All – 635)
Diagnostics on Current and Future Usage of each of the CAD Trends 2015

*CAD Trends by importance rank order with analysis on sectors with appreciable differences in current and future usage*
3D Modelling

2015 IMPORTANCE MEAN SCORE 8.5

Observation: 3D Modelling is a core and slow growth area in today’s market, with high importance and usage (both show an increase year-on-year).

Forecast: Future predicted growth potential is limited, due to majority already using 3D modelling.

Sectors: Generally high current usage across industry sectors, and similarly high usage across regions and countries.

Co. Size: Small companies (1-50 employees) are less likely to be current users (although 7 in 10 still use).

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=557)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
3D Modelling by Key Sectors

2015 IMPORTANCE MEAN SCORE: OVERALL 8.5, MANUFACTURING 9.1, AEC 8.0

- **Use now in-house (2014)**: Total 64%, Manufacturing 70%, AEC 66%
- **Use now in-house (2015)**: Total 77%, Manufacturing 81%, AEC 72%
- **Use now, and plan to use in-house within 1 year**: Predicted 1 yr. inc. Manufacturing: 2%, AEC: 8%
- **Use now, and plan to use in-house within 3-5 years**: Predicted 3-5yr inc. Manufacturing: 4%, AEC: 14%

**Sector:** The AEC sector is predicted to close the gap on the Manufacturing sector for usage of 3D modelling.

**Forecast:** Whilst currently Manufacturing companies are more likely to use 3D modelling, growth of 3D modelling in the AEC sector is predicted to be up to 4 times higher than Manufacturing, over the next year and 3-5 years.

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=557)  
Base: Usage score is based on everybody (2014: All-409, Manuf-97, AEC-157, 2015: All-635, Manuf-211, AEC-192)
Observation: An increasingly important area in today's market, with growing importance and usage.
Sector: Significantly lower current usage in AEC and Government than any other sector.
Co. Size: Higher current usage in large companies (40%) compared to medium (30%) or small (15%) companies.
Observations: The Manufacturing sector will continue to dominate in usage of Product Data Management.

Forecast: Although AEC usage of PDM is predicted to almost double in the next 3-5 years compared to 2015, this is from a low base level, and will still fall significantly behind usage in the Manufacturing sector, which is predicted to grow by almost a third in the next 3-5 years.
Simulation

2015 IMPORTANCE MEAN SCORE 6.7

Observation: Simulation is a growth area in today’s market, with high importance and higher than average usage.

Forecast: Both importance and usage increased y-on-y, usage is more than double the forecast in 2014, although relatively limited predicted growth compared to other trends.

Co. Size: More likely to be used currently in large companies (55%) than small (26%) or medium (40%) companies.

Sectors: Usage of Simulation is seen mostly for design optimisation (70%), design validation (63%) or mechanical simulation (62%) (based on those using or planning to use simulation – 313)

Drivers: Ease of use for less experienced designers would be a key driver in encouraging additional use of simulation software (52%) or a 50% cost reduction (33%). Expert support for usage guidance is generally expected as part of the package (47%).

KEY FACTS

Use now in-house (2014) | Use now in-house (2015) | Use now, and plan to use in-house within 1 year | Use now, and plan to use in-house within 3-5 years
---|---|---|---
31% | 40% | 44% | 49%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=383)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Simulation by Key Sectors

2015 IMPORTANCE MEAN SCORE: OVERALL 6.7, MANUFACTURING 7.5, AEC 5.2

Observation: The Manufacturing sector will continue to dominate usage of Simulation.
Forecast: Manufacturing sector is predicted to rise by 13% in the next 3-5 years (base year 2015). AEC usage is predicted to grow by almost 60% in the next 3-5 years (base 2015), but its absolute level of usage is still likely to be half of that seen in the Manufacturing sector.

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=557)
Base: Usage score is based on everybody (2014: All-409, Manuf-97, AEC-157, 2015: All-635, Manuf-211, AEC-192)
# Product Lifecycle Management (PLM)

## 2015 Importance Mean Score 6.7

<table>
<thead>
<tr>
<th>Use now in-house (2014)</th>
<th>Use now in-house (2015)</th>
<th>Use now, and plan to use in-house within 1 year</th>
<th>Use now, and plan to use in-house within 3-5 years</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>21%</td>
<td>25%</td>
<td>30%</td>
</tr>
</tbody>
</table>

**Observation:** PLM is a growing area in today’s market.

**Forecast:** Increasing importance and usage (more than double in 3-5 years compared to 2014 prediction), although relatively limited predicted growth compared to others.

**Co. Size:** Higher current usage in large companies (38%) than small (8%) or medium companies (19%).

**Benefits:** Siemens Teamcenter (29%) and PTC Windchill (26%) are the main products used and the perceived benefits are savings on design time (57%), design improvements (52%), faster time to market (40%) and cost savings (37%).

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Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=294)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
## PLM by Key Sectors

### 2015 IMPORTANCE MEAN SCORE: OVERALL 6.7, MANUFACTURING 7.1, AEC 5.9

<table>
<thead>
<tr>
<th></th>
<th>Total</th>
<th>Manufacturing</th>
<th>AEC</th>
</tr>
</thead>
<tbody>
<tr>
<td>Use now in-house (2014)</td>
<td>15%</td>
<td>26%</td>
<td>4%</td>
</tr>
<tr>
<td>Use now in-house (2015)</td>
<td>21%</td>
<td>31%</td>
<td>7%</td>
</tr>
<tr>
<td>Use now, and plan to use in-house within 1 year</td>
<td>25%</td>
<td>37%</td>
<td>9%</td>
</tr>
<tr>
<td>Use now, and plan to use in-house within 3-5 years</td>
<td>30%</td>
<td>41%</td>
<td>14%</td>
</tr>
</tbody>
</table>

**Observations:** The Manufacturing sector dominates usage of PLM.

**Forecast:** Use of PLM in Manufacturing is predicted to grow by 32% in the next 3-5 years (base year 2015). AEC usage of PLM is likely to double in the next 3-5 years however, this is from a low base.

**Base:** Importance score is based on all aware of this particular CAD Trend in 2015 (n=557)

**Base:** Usage score is based on everybody (2014: All=409, Manuf=97, AEC=157, 2015: All=635, Manuf=211, AEC=192)
**Concurrent Engineering**

**2015 IMPORTANCE MEAN SCORE 6.4**

- **Observation:** Concurrent Engineering is an area of increasing interest in today’s market.

- **Forecast:** Importance and usage are both likely to increase with an average predicted future growth (across both 12 month and 3-5 years).

- **Sectors:** Higher usage in medium sized companies (23%) followed by small companies (13%).

- **Co. Size:** Higher predicted usage in the short term (next 12 months) for larger companies.

- **Regions:** The current usage is higher in North America (24%), followed by EMEA (16%) and APAC (12%).

**KEY FACTS**

- **Use now in-house (2014):** 12%
- **Use now in-house (2015):** 19%
- **Use now, and plan to use in-house within 1 year:** 25%
- **Use now, and plan to use in-house within 3-5 years:** 31%

**Predicted 2014-15 increase -33% exceeded**

- **Predicted 1 year increase:** 32%
- **Predicted 3-5 year increase:** 63%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=249)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Building Information Modelling (BIM)

Observation: BIM is an area in flux in today's market, with unrealised predicted growth.

Forecast: Only half of predicted year-on-year growth is achieved in 2015. Decline in importance and below average predicted future growth.

Benefits: Benefits of using BIM are seen as design improvement (69%), savings on design time (54%) and cost savings (34%), as well as faster response times to market (24%) \(\text{(based on those using or planning to use BIM – 175)}\).
**Observation:** As expected BIM current usage and future usage will continue to be dominated by the AEC sector.

**Forecast:** The usage in the AEC sector is predicted to grow by 45% in the next 3-5 years.
Mobile Access to CAD

2015 IMPORTANCE SCORE 5.9

Observation: Mobile Access to CAD is a stable area in today’s market, with slightly above average importance and usage.

Forecast: Average predicted future growth (although predicted growth in 2014 was not met).

Regions: Current usage is significantly higher in North America (26%) than APAC (17%). Although longer term predicted growth (3-5 years) is more likely to come from APAC. This trend is reflected in the current and predicted hardware usage.
Mobile Access to CAD by Key Sectors

2015 IMPORTANCE MEAN SCORE: OVERALL 5.9, MANUFACTURING 5.6, AEC 6.2

- Use now in-house (2014): Total 21%, Manufacturing 15%, AEC 25%
- Use now in-house (2015): Total 22%, Manufacturing 18%, AEC 31%
- Use now, and plan to use in-house within 1 year: Total 30%, Manufacturing 25%, AEC 41%
- Use now, and plan to use in-house within 3-5 years: Total 38%, Manufacturing 32%, AEC 50%

Observation: Current usage of Mobile Access to CAD is driven by the AEC sector.

Forecast: The usage of Mobile Access to CAD is predicted to grow significantly in both sectors however, overall usage will continue to remain higher for AEC.
Advanced Real-Time Rendering and Visualisation

2015 IMPORTANCE MEAN SCORE 5.9

Observation: Stable trend in today's market, with around average importance (up y-on-y) and usage

Forecast: Average predicted future growth.

Sectors: Stable across industry sectors and regions.

Key Facts:

- **Advanced Real-Time Rendering and Visualisation**

2015 IMPORTANCE MEAN SCORE 5.9

- **Predicted 2014-15 increase 31% not achieved**: 13%
- **Predicted 1 year increase 33%**: 15%
- **Predicted 3-5 year increase 67%**: 20%
- **Use now, and plan to use in-house within 3-5 years**: 25%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=233)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
3D Printing

2015 IMPORTANCE MEAN SCORE 4.6

Observation: Currently a niche area of interest in today’s market, with increasing usage, although below average importance.

Forecast: Strong predicted future growth potential.

Regions: Higher current usage in Americas (28%) than EMEA (17%)

Co. Size: Higher current usage in medium (24%) and large companies (34%) than small companies (9%).

Other: Limited brand recognition with half unable to name their brand (51%). 1 in 5 (20%) use Stratasys, and 1 in 10 use Makerbot, 3D Systems and Cubify.

Benefits: Benefits of 3D printing seen as design improvements (66%), savings on design time (48%) and cost savings (24%), as well as faster response time to market (36%) (based on those using or planning to use 3D printing – 289)

Key Facts

- Use now in-house (2014): 15%
- Use now in-house (2015): 22%
- Use now, and plan to use in-house within 1 year: 33%
- Use now, and plan to use in-house within 3-5 years: 45%

Predicted 2014-15 increase 53% almost achieved
Predicted 1 year increase 50%
Predicted 3-5 year increase 104%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=472)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Observation: The Manufacturing sector will continue to dominate usage of 3D printing, but over 3 to 5 years the AEC sector will move towards closing the gap.

Forecast: Usage of 3D printing in the Manufacturing sector is predicted to grow by 73% in the next 3-5 years, usage in AEC is predicted to grow 278%. Strong perceived growth in AEC is likely to impact the overall forecast of usage. Overall usage is likely to increase by more than double in the next 3-5 years.
Observation: Niche area in today’s market, with very low current usage (down y-on-y).

Forecast: The future growth prediction is very high but, from a very low current base. Only 1 in 50 currently using Big Data (true across all industry sectors/regions).

Benefits: Benefits of Big Data are seen as design improvements (56%), savings on design time (44%) and cost savings (34%), as well as faster response times to market (25%), and a range of solutions currently in use, mainly provided by SAP (30%) and Microsoft (26%) (based on those using or planning to use Big Data n=43).

Definition: The definitions of Big Data vary hugely and range from data analysis (25%), helping to make well informed decisions (22%) or quick (19%) decisions, data mining (20%) and access to real time data (19%) but, over half are unable to give a clear definition (based on those aware of Big Data n=94)

**KEY FACTS**

Big Data Applications

2015 IMPORTANCE MEAN SCORE 4.6

- **Predicted 2014-15 increase-33% not achieved – decline in use**
  - Use now in-house (2014): 3%
  - Use now in-house (2015): 2%

- **Predicted 1 year increase 100%**
  - Use now, and plan to use in-house within 1 year: 4%

- **Predicted 3-5 year increase 250%**
  - Use now, and plan to use in-house within 3-5 years: 7%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=93)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Augmented/Virtual Reality

2015 IMPORTANCE MEAN SCORE 4.5

Observation: Very niche area in today's market with limited appeal, low importance and low current usage

Forecast: The future growth predictions are very high but, from a low base level. Only 1 in 33 currently use Augmented Reality.

Sectors: Low usage is evident across all industry sectors and regions. No particular area stands out for predicted future growth.

KEY FACTS

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=115)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Open Source CAD Software

2015 IMPORTANCE MEAN SCORE 4.4

Observation: Very niche area in today’s market, with decline in the current usage, and below average importance.

Forecast: The future growth potential appears to be strong, particularly in the next 3-5 years but, this is from a low base level.

Sectors: Low usage is evident across all industry sectors and regions. There is some indication that the education sector is more likely to consider open source in the longer term.

Key Facts:

- Use now in-house (2014): 7%
- Use now in-house (2015): 6%
- Use now, and plan to use in-house within 1 year: 9%
- Use now, and plan to use in-house within 3-5 years: 13%

Predicted 2014-15 increase-14% not achieved – decline in use
Predicted 1 year increase 33%
Predicted 3-5 year increase 117%

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=222)
Base: Usage score is based on everybody (2014 n=409, 2015 n=635)
Cloud Based CAD Applications

2015 IMPORTANCE MEAN SCORE 4.0

Observation: Cloud continues to be an area of interest in today’s market. The usage and importance are currently low and have remained relatively stable year-on-year.

Forecast: Good future predicted growth potential, particularly in the longer term of 3-5 years.

Regions: No major differences by region.

Benefits: The perceived benefits of cloud based CAD are higher mobility (66%), ease of updating software (45%), cost reductions (39%) and increased storage capacity (31%) *(based on those using or planning to use Cloud based CAD – 168).*

**BASE:** Importance score is based on all aware of this particular CAD Trend in 2015 (*n*=321)

**BASE:** Usage score is based on everybody (2014 *n*=409, 2015 *n*=635)
Cloud Based CAD by Key Sectors

**2015 IMPORTANCE SCORE:** OVERALL 4.0, MANUFACTURING 3.7, AEC 4.3

**Observation:** The AEC sector saw a year on year increase of 22%, whilst manufacturing did not show any positive uplift on last year.

**Forecast:** Both Manufacturing and AEC are predicted to show strong increase in usage over the next 3-5 years.

Base: Importance score is based on all aware of this particular CAD Trend in 2015 (n=557)
Base: Usage score is based on everybody (2014: All-409, Manuf-97, AEC-157, 2015: All-635, Manuf-211, AEC-192)
**Pay As You Go CAD Software**

**2015 IMPORTANCE SCORE 3.7**

**Observation:** Very niche area in today’s market with limited appeal, low importance and very low usage

**Forecast:** Predicted future growth is very strong but, from a low baseline. We did not observe an increase in usage year-on-year, despite a prediction of 100% growth.

**Sectors:** No differences noted across industry sectors and regions. In the coming year, a higher growth is predicted in North America and APAC compared to EMEA. In the longer term more growth is predicted from AEC compared to Manufacturing.

**KEY FACTS**

- **Use now in-house (2014):** 2%
- **Use now in-house (2015):** 2%
- **Use now, and plan to use in-house within 1 year:** 7%
- **Use now, and plan to use in-house within 3-5 years:** 12%

**Base:** Importance score is based on all aware of this particular CAD Trend in 2015 (n=173)
**Base:** Usage score is based on everybody (2014 n=409, 2015 n=635)
Outsourcing CAD Related Jobs Overseas

2015 IMPORTANCE MEAN SCORE 3.6

Observation: Outsourcing is a niche area in today's market with below average importance and usage.

Forecast: Some limited signs of future growth, particularly in the longer term (3-5 years).

Co. Size: Unsurprisingly, higher current usage in large companies (15%) compared to small companies (4%). We also see higher current usage in North America (14%) compared to the EMEA (6%). Future predicted growth shows no significant differences by industry sector or region.
CAD Usage

Section Two
Most used CAD Software Packages

<table>
<thead>
<tr>
<th>10 most used packages</th>
<th>Trends 2015</th>
<th>2015: used significantly more by...</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>AutoCAD</td>
<td>AEC</td>
</tr>
<tr>
<td>2</td>
<td>SolidWorks</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>3</td>
<td>PTC Creo</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>4</td>
<td>Inventor</td>
<td>Manufacturing</td>
</tr>
<tr>
<td>5</td>
<td>MicroStation</td>
<td>AEC</td>
</tr>
<tr>
<td>6</td>
<td>CATIA</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Pro/E</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>NX</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Revit Architecture</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>AutoCAD LT</td>
<td></td>
</tr>
</tbody>
</table>
# Most used Collaboration Software Tools

<table>
<thead>
<tr>
<th>10 most used packages</th>
<th>Trends 2015</th>
<th>Used significantly more by....</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>1=PTC Windchill</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>1=Autodesk Design Review</td>
<td>AEC</td>
</tr>
<tr>
<td>3</td>
<td>1=Siemens Teamcenter</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Autodesk Navisworks</td>
<td>AEC</td>
</tr>
<tr>
<td>5</td>
<td>5=Autodesk Vault</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>5=Bentley ProjectWise</td>
<td>AEC</td>
</tr>
<tr>
<td>7</td>
<td>7=SolidWorks Enterprise PDM</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>7=Autodesk Buzzsaw</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>9=Bentley ProjectWise WebServer/Explorer</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>9=Solidworks Workgroup PDM</td>
<td></td>
</tr>
</tbody>
</table>

A third state they do not use collaboration software

Q12: which (if any) software solution(s) do you/your company use for collaboration, data and information management? (Base: All, 2015 – 635)
Value in Software Upgrades

Just over half of those surveyed had upgraded, changed or added to their CAD software in the last 12 months, so were asked a series of questions around productivity during transition.

- The results show that on average CAD upgrades break even (in productivity terms) in just over 2 months (an improvement since 2014) and thereafter continue to produce productivity gains.

  - 16% Productivity Gain (weighted average) from using the upgraded version [compared to 13% in 2014]
  - 9 weeks to break even in productivity terms [compared to 10.6 in 2014]
  - 4.8 weeks of productivity gain (weighted average) [compared to 5.7 in 2014]
  - 4.2 week productivity loss (weighted average) while learning upgraded version [compared to 4.8 in 2014]
  - 18% Productivity Loss (weighted average) while learning the upgraded version [compared to 15% in 2014]

Just over half of those surveyed had upgraded, changed or added to their CAD software in the last 12 months, so were asked a series of questions around productivity during transition.
Current and Future Usage of Hardware

**WHAT HARDWARE IS BEING USED, AND WHAT WILL BE USED NEXT?**

**Observation:** Current usage for desktop based solutions is stable, predicted decline in future demand. Interest in mobile phone usage remains relatively low.

**Forecast:** Increase in the usage and demand for mobile/virtual solutions.

**KEY FACTS**

- **Q. What type of hardware do you use for CAD systems at the moment? (Base: All: 2014 – 409, 2015 – 635)**
- **Q. What type(s) of hardware do you think you will use more often for CAD systems in the future? (Base: All: 2015 – 635)**

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- **Desktop Workstation:**
  - **Usage 2014:** 55%
  - **Usage 2015:** 42%
  - **Future Usage:** 56%

- **Desktop PC:**
  - **Usage 2014:** 46%
  - **Usage 2015:** 44%
  - **Future Usage:** 28%

- **Laptop PC:**
  - **Usage 2014:** 30%
  - **Usage 2015:** 34%
  - **Future Usage:** 30%

- **Mobile workstation:**
  - **Usage 2014:** 15%
  - **Usage 2015:** 20%
  - **Future Usage:** 24%

- **SSD (Solid State Drive):**
  - **Usage 2014:** 11%
  - **Usage 2015:** 15%
  - **Future Usage:** 16%

- **Virtual CAD workstation:**
  - **Usage 2014:** 7%
  - **Usage 2015:** 15%
  - **Future Usage:** 6%

- **Tablet:**
  - **Usage 2014:** 6%
  - **Usage 2015:** 5%
  - **Future Usage:** 19%

- **Mobile phone:**
  - **Usage 2014:** 4%
  - **Usage 2015:** 2%
  - **Future Usage:** 4%
Frequency of Downloading 3D Models

**TREND 2015 AND Y-ON-Y COMPARISON**

- Significant increase in the number of users downloading 3D Models regularly (10+ times/month)
- The increase is particularly driven by Manufacturing

<table>
<thead>
<tr>
<th>Frequency</th>
<th>Trends 2014</th>
<th>Trends 2015</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 10 times a month</td>
<td>13%</td>
<td>22%</td>
</tr>
<tr>
<td>5-9 times a month</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>1-4 times a month</td>
<td>18%</td>
<td>17%</td>
</tr>
<tr>
<td>Once a month</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Every 3-6 months</td>
<td>15%</td>
<td>14%</td>
</tr>
<tr>
<td>Once a year</td>
<td>7%</td>
<td>7%</td>
</tr>
<tr>
<td>Never</td>
<td>20%</td>
<td>16%</td>
</tr>
<tr>
<td>Don't know</td>
<td>10%</td>
<td>7%</td>
</tr>
</tbody>
</table>

Q. How often do you typically search for and download ready made 3D models to increase productivity in your company
Popular Sources of Information CAD Software

CAD TRENDS 2015

<table>
<thead>
<tr>
<th>Source of Information</th>
<th>Percentage</th>
<th>Y-o-Y Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Internet search engines</td>
<td>44%</td>
<td>+4 pts</td>
</tr>
<tr>
<td>On-line blogs/CAD forums/other forums</td>
<td>43%</td>
<td>+17 pts</td>
</tr>
<tr>
<td>Websites related to software solutions</td>
<td>41%</td>
<td>+9 pts</td>
</tr>
<tr>
<td>Industry magazines/journals</td>
<td>39%</td>
<td>+3 pts</td>
</tr>
<tr>
<td>* Webinars</td>
<td>38%</td>
<td>+13 pts</td>
</tr>
<tr>
<td>Emails/post from software providers/ suppliers</td>
<td>34%</td>
<td>0 pts</td>
</tr>
<tr>
<td>Free downloads/trials/evaluation version of software</td>
<td>33%</td>
<td>+5 pts</td>
</tr>
<tr>
<td>Product demonstrations (face to face/on-line)</td>
<td>30%</td>
<td>+10 pts</td>
</tr>
<tr>
<td>Reseller/sales representatives</td>
<td>29%</td>
<td>+5 pts</td>
</tr>
<tr>
<td>* Tradeshows/seminars/road shows</td>
<td>28%</td>
<td>+10 pts</td>
</tr>
<tr>
<td>Advice/recommendation from work colleagues</td>
<td>26%</td>
<td>+3 pts</td>
</tr>
<tr>
<td>* White papers</td>
<td>24%</td>
<td>+7 pts</td>
</tr>
<tr>
<td>Independent reviews/comparisons of different software</td>
<td>22%</td>
<td>+9 pts</td>
</tr>
<tr>
<td>* Advice/recommendation from informal industry</td>
<td>21%</td>
<td>0 pts</td>
</tr>
<tr>
<td>Product brochures (hardcopy/electronic)</td>
<td>20%</td>
<td>+1 pts</td>
</tr>
<tr>
<td>* Customer case studies/testimonials/reviews</td>
<td>16%</td>
<td>+6 pts</td>
</tr>
<tr>
<td>Social media/networking sites</td>
<td>14%</td>
<td>+4 pts</td>
</tr>
<tr>
<td>Advice/recommendation from company’s IT department</td>
<td>12%</td>
<td>+1 pts</td>
</tr>
</tbody>
</table>

KEY FACTS

- These are consolidated results for all job titles
- Favoured media differs considerably by job title - so marketing to reach senior managers, CAD managers or engineers should use different strategies
- Specifically, “Online blogs/CAD Forums/Other Forums” have seen the biggest gain in usage, followed by “Webinars”
Technical Survey Information

Appendices
Note on Analysis

YEAR-ON-YEAR SURVEY SAMPLE

- This study has been conducted in consecutive years. To ensure comparability and so that any changes in the results are true and not a result of different sample profiles, the 2015 CAD Trends data was adjusted by geographic region to be internationally representative and weighted by industry sector within the CAD market.

- CAD Trend results were reviewed by individual sector and consolidated across all sectors. For the consolidated results, sectors within each tier were weighted equally:
  - Tier 1: AEC and Manufacturing
  - Tier 2: Process & Plant and Other
  - Tier 3: Education, Government and Utilities
Technical Survey Information

- In looking at future usage, we have made the assumption that current usage will continue, therefore future usage is an incremental addition to current usage.
- All differences mentioned within the report are statistically significant at the 95% confidence level.
- Weighting factors applied as follows:
  - Tier 1: AEC and Manufacturing – 34% weight
  - Tier 2: Process & Plant and Other – 10% weight
  - Tier 3: Education, Government and Utilities – 4% weight
- All bases shown in the report are unweighted – demonstrating the actual sample size, not its weighted equivalent.
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Please get in touch with us for further information or customised reporting

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