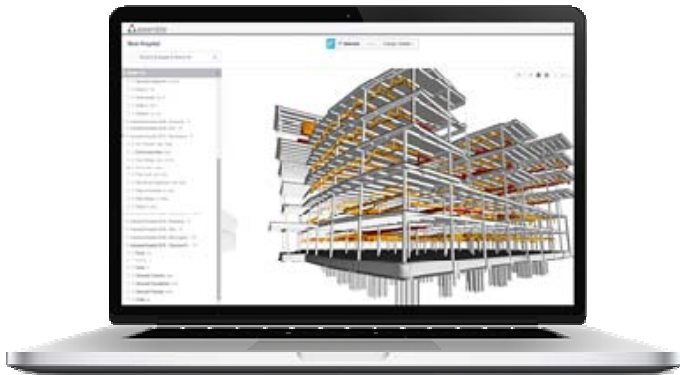


## Power Quality International goes DIGITAL

PQI's Type 'DV' harmonic mitigating TransFilters™, Type 'Z' zero-sequence harmonic mitigating I<sub>0</sub>Filters™ and Type 'EY' ultra-high efficiency distribution transformers are now included in Autodesk® Revit® 'Building Information Modeling' (BIM) software.

Based on a recent review, it would appear that PQI is presently the only manufacturer offering harmonic mitigating transformers and electromagnetic filters in the BIM Autodesk® format.



## What is BIM?

BIM is a digital representation of physical and functional characteristics of a facility. BIM is a shared knowledge resource for information about a facility. It forms a reliable basis for decisions during its life-cycle (defined as existing from earliest conception to demolition).

Traditional building design was largely reliant upon two-dimensional technical drawings. BIM extends this beyond 3D, augmenting the three primary spatial dimensions (width, height and depth) with time as the fourth dimension (4D) and cost as the fifth (5D). BIM therefore covers more than just geometry. It also covers spatial relationships, light analysis, geographic information, and quantities and properties of building components.

BIM involves representing a design as combinations of 'objects' – vague and undefined, generic or product-specific, solid shapes or void-space oriented (like the shape of a room), that carry their geometry, relations and attributes. BIM design tools allow extraction of different views from a building model for drawing production and other uses. These different views are automatically consistent, being based on a single definition of each object instance. BIM software also defines objects parametrically; that is, the objects are defined as parameters and relations to other objects, so that if a related object is amended, dependent ones will automatically also change. Each model element can carry attributes for selecting and ordering them automatically, providing cost estimates as well as material tracking and ordering.

For the professionals involved in a project, BIM enables a virtual information model to be handed from the design team to the main contractor and subcontractors, and then on to the owner/operator; each professional adds discipline-specific data to the single shared model. This reduces information losses that traditionally occurred when a new team takes 'ownership' of the project, and provides more extensive information to owners of complex structures.



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Autodesk® Revit® software is specifically built for Building Information Modeling (BIM), empowering design and construction professionals to bring ideas from concept to construction with a coordinated and consistent model-based approach. Autodesk Revit is a single application that includes features for architectural design, MEP and structural engineering, and construction.

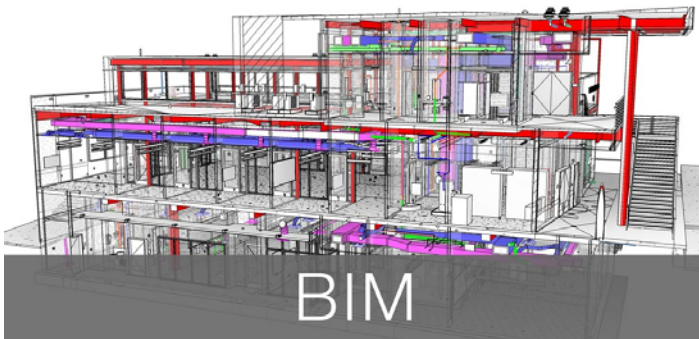
As building regulations and requirements become more complex, Building Information Modeling (BIM) is becoming all the more critical for successful project delivery. From increased design efficiencies, streamlined workflows, improved collaboration and project management and reduced project costs, the benefits of BIM are clear.



**A New Opportunity**

Autodesk® Revit® ‘Building Information Modeling’ software includes all the required physical and functional characteristics of our harmonic mitigating devices and ultra-high efficiency transformers. BIM software also provides the user with a link to our website and high-quality leads to PQI and our representatives when our products are accessed in the BIM software.

Since many facility owners now require that all components in their projects be included in BIM software, we anticipate increased opportunities in the future. Once our devices become an object in BIM, the likelihood of their being replaced with an alternative is extremely unlikely.



**Who uses BIM?**

The following lists will identify some of larger architecture, engineering and contracting firms that use BIM.

**Top 25 BIM Architecture Firms**

BIM Revenue Total: \$4,340,914,665

| Rank | Company                                 | 2014 BIM Revenue |
|------|---|------------------|
| 1    | Gensler                                 | \$833,024,000    |
| 2    | HOK                                     | \$395,000,000    |
| 3    | Skidmore, Owings & Merrill              | \$338,257,865    |
| 4    | Perkins+Will                            | \$322,194,600    |
| 5    | HDR                                     | \$314,877,500    |
| 6    | Stantec                                 | \$296,939,992    |
| 7    | HKS                                     | \$252,277,490    |
| 8    | CannonDesign                            | \$165,000,000    |
| 9    | Smith Group JJR                         | \$147,900,000    |
| 10   | EYP                                     | \$144,727,249    |
| 11   | Callison RTKL                           | \$132,800,000    |
| 12   | ZGF Architects                          | \$118,520,258    |
| 13   | Corgan                                  | \$ 99,858,000    |
| 14   | Adrian Smith + Gordon Gill Architecture | \$ 79,000,000    |
| 15   | HGA Architects and Engineers            | \$ 78,157,000    |
| 16   | Flad Architects                         | \$ 73,300,000    |
| 17   | Perkins Eastman                         | \$ 73,160,000    |
| 18   | DLR Group                               | \$ 71,500,000    |
| 19   | Page                                    | \$ 70,000,000    |
| 20   | Gresham, Smith and Partners             | \$ 67,847,000    |
| 21   | Clark Nexsen                            | \$ 58,700,400    |

| <i>Rank</i> | <i>Company</i>                | <i>2014 BIM Revenue</i> |
|-------------|-------------------------------|-------------------------|
| 22          | Cunningham Group Architecture | \$ 55,069,991           |
| 23          | Ennead Architects             | \$ 52,275,000           |
| 24          | Harley Ellis Devereaux        | \$ 51,218,000           |
| 25          | Kirksey Architecture          | \$ 49,310,320           |

### **Top 25 BIM Engineering Firms**

BIM Revenue Total: \$4,098,453,001

|    |   |                 |
|----|---|-----------------|
| 1  | Jacobs                                      | \$2,761,837,228 |
| 2  | Burns & McDonnell                           | \$ 144,794,135  |
| 3  | Thornton Tomasetti                          | \$ 124,815,343  |
| 4  | SSOE Group                                  | \$ 121,870,541  |
| 5  | Leidos                                      | \$ 85,658,000   |
| 6  | Vanderweil Engineers                        | \$ 83,723,900   |
| 7  | KPFF Consulting Engineers                   | \$ 82,000,000   |
| 8  | Dewberry                                    | \$ 79,106,299   |
| 9  | WSP   Parsons Brinckerhoff                  | \$ 60,000,000   |
| 10 | KJWW Engineering Consultants                | \$ 57,430,000   |
| 11 | BR+A Consulting Engineers                   | \$ 46,000,000   |
| 12 | Henderson Engineers                         | \$ 45,129,475   |
| 13 | ME Engineers                                | \$ 45,000,000   |
| 14 | Magnusson Klemencic Associates              | \$ 43,651,196   |
| 15 | Walter P Moore                              | \$ 42,030,337   |
| 16 | TTG   | \$ 40,573,200   |
| 17 | Smith Seckman Reid                          | \$ 36,538,845   |
| 18 | TLC Engineering for Architecture            | \$ 34,360,981   |
| 19 | Jensen Hughes                               | \$ 28,500,000   |
| 20 | Epstein                                     | \$ 23,991,400   |
| 21 | Cardno Haynes Whaley                        | \$ 23,207,485   |
| 22 | Heapy Engineering                           | \$ 23,132,853   |
| 23 | Degenkolb Engineers                         | \$ 22,769,783   |
| 24 | Affiliated Engineers                        | \$ 22,332,000   |
| 25 | Hixson Architecture, Engineering, Interiors | \$ 20,000,000   |

### **Top 25 BIM Construction Firms**

BIM Revenue Total: \$50,651,284,983

|    |                                 |                 |
|----|---------------------------------|-----------------|
| 1  | Turner Construction             | \$6,960,000,000 |
| 2  | Whiting-Turner Contracting, The | \$3,767,284,852 |
| 3  | Skanska USA                     | \$3,391,297,339 |
| 4  | PCL Construction                | \$3,013,868,713 |
| 5  | Balfour Beatty US               | \$2,793,025,783 |
| 6  | Gilbane Building Co.            | \$2,562,000,000 |
| 7  | Hensel Phelps                   | \$2,465,810,000 |
| 8  | Lend Lease                      | \$2,268,281,000 |
| 9  | McCarthy Holdings               | \$2,253,640,597 |
| 10 | JE Dunn Construction            | \$2,012,573,205 |
| 11 | Mortenson Construction          | \$1,977,778,800 |
| 12 | Clark Group                     | \$1,862,982,912 |
| 13 | DPR Construction                | \$1,793,000,000 |
| 14 | Hoffman Construction            | \$1,528,274,204 |
| 15 | Suffolk Construction            | \$1,505,933,298 |

| <i>Rank</i> | <i>Company</i>      | <i>2014 BIM Revenue</i> |
|-------------|---------------------|-------------------------|
| 16          | Walsh Group, The    | \$1,357,634,163         |
| 17          | Structure Tone      | \$1,283,092,300         |
| 18          | Walbridge           | \$1,264,845,000         |
| 19          | Barton Malow        | \$1,243,539,000         |
| 20          | Clayco              | \$1,140,000,000         |
| 21          | Austin Industries   | \$ 953,140,898          |
| 22          | Power Construction  | \$ 868,000,000          |
| 23          | Brasfield & Gorrie  | \$ 855,573,176          |
| 24          | Weitz Company, The  | \$ 765,632,000          |
| 25          | Messer Construction | \$ 764,077,743          |

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