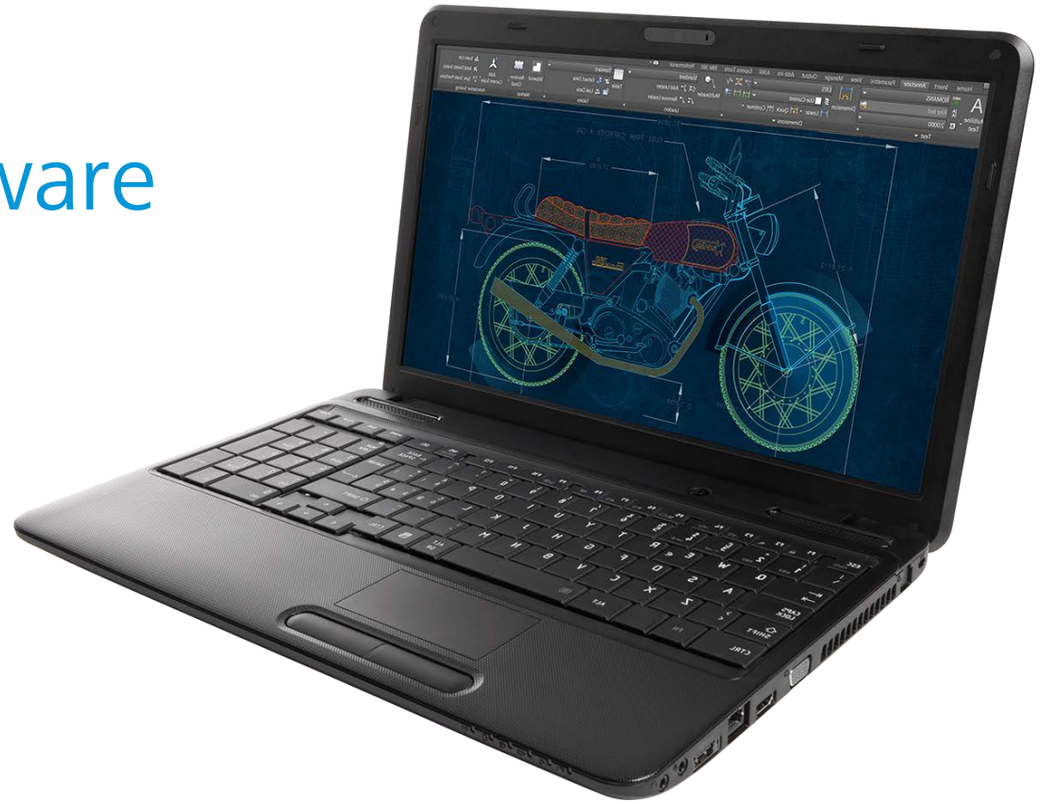
To Ask Before Purchasing Low-Cost CAD Software

By Robert Green, Owner, Robert Green Consulting

5 Questions to Ask before Purchasing Low-Cost CAD Software



1. Does the CAD software have a consistent command vocabulary?
2. Does the software support high productivity work methods?
3. Does the software support TrustedDWG compliance and file interoperability?
4. Does the software support broad import, export and overlay options?
5. What does low-cost software ‘actually’ cost?

As a consultant I work with a lot of companies interested in equipping their more casual 2D CAD users with a CAD tool that costs less than conventional AutoCAD® software. When speaking with senior staff members at these companies I’m often asked a question like this: “Should we spend the money on AutoCAD LT® software for our casual CAD users or go with one of these free or low cost competitor programs we see touted on the Internet?”

My answer has been and continues to be an emphatic, “Go with AutoCAD LT!” My reasoning is that AutoCAD LT makes better sense technically, organizationally, and financially than the competitor alternatives – even the free ones. Since I’m frequently challenged on how AutoCAD LT can be better than something that’s low cost or even “free” I’ve developed a list of questions anyone considering a purchase of low-cost software should ask themselves before they decide on a final CAD solution.

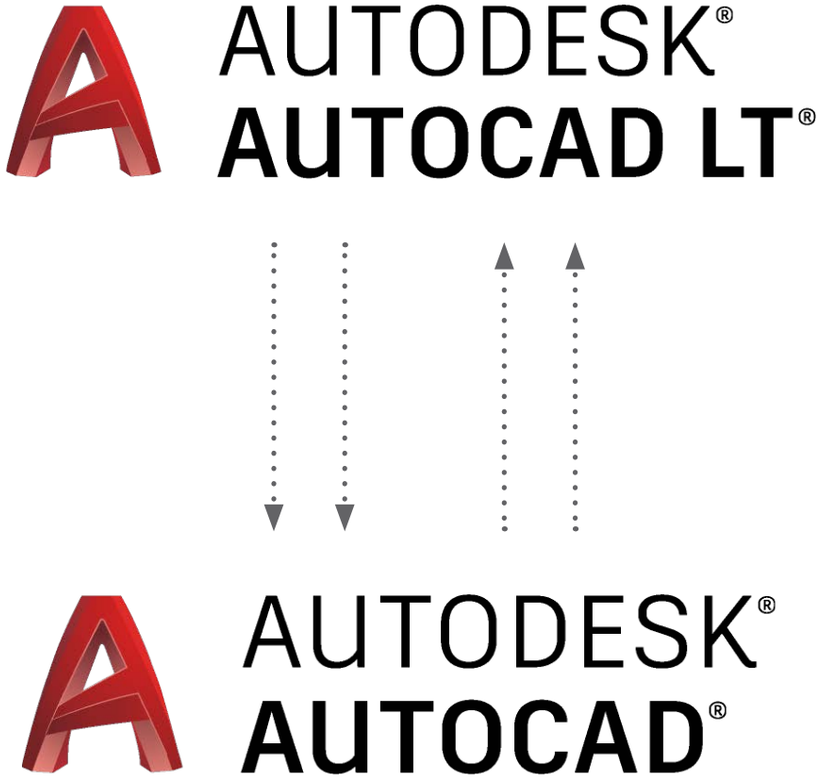
Following are my top five.

1. Does the CAD software have a consistent command vocabulary?

Market share figures fluctuate but AutoCAD has been used by millions of professionals for over 30 years so its command vocabulary is obviously broadly understood. Since AutoCAD LT's commands are the same as AutoCAD's (with the exception of some 3D centric commands like point cloud manipulation that aren't supported) the following advantages for AutoCAD LT become apparent:

- Anyone you hire who knows AutoCAD will already understand AutoCAD LT
- AutoCAD users can easily communicate with AutoCAD LT users
- Existing AutoCAD training and standards programs can be used for AutoCAD LT users as well

If you use a "free" CAD program without AutoCAD LT's advantages you may spend a lot of time explaining, training, and supporting users in their quest to learn the differences between the "free" program and AutoCAD.



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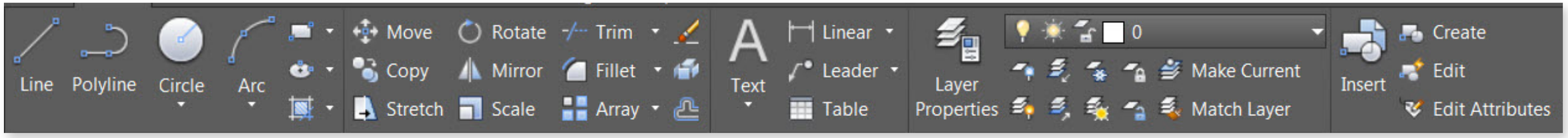
ADDITIONAL DIAGNOSTIC QUESTIONS:
How much will that extra time cost your organization?
How much time could you save if all your users utilized the industry standard AutoCAD command vocabulary?
How much will you spend on your "free" CAD program?

2. Does the software support high productivity work methods?



Over the years, AutoCAD has devised many highly productive ways to work and AutoCAD LT has kept right up. Despite some people's opinion to the contrary, AutoCAD LT is actually a very modern program, not a stripped down, low end substitute for AutoCAD. Some of the productivity enhancing work processes supported by AutoCAD LT include:

Dynamic blocks – These programmable entities allow a single block (say a door) to take on multiple personalities (right/left hung, varying sizes, different display swing angles, etc.) with only a few user clicks.

Tool palettes – Floating on the desktop wherever the user likes, these palettes allow multiple pieces of content like blocks, tables, etc., to be visually represented in an easy-to-use drag and drop visual interface.

Content Explorer – A navigation center that allows the CAD administrator to aggregate all manner of reusable electronic content from anywhere in the LAN/WAN environment into a visually-organized explorer-style panel.

Custom User Interface (CUI) Files – CUI files allow standardization of the various tools, ribbons, palettes, and user interface components your users need to navigate the CAD program in a way that makes sense for them (and your company).

Sheet Set Manager (SSM) – Typically docked to the left of the screen, the SSM allows a selection of drawings/sheets to be organized just like a multi discipline design package is in an engineering office. The SSM isn't widely used but those companies that do use it find their casual love it because the analogy makes so much sense to them.

What's really worth noting here is that all these productivity tools can be controlled by the CAD administrator just like AutoCAD, and can be taught using exactly the same standards and training methodologies the company would with AutoCAD – thus leveraging the investment you may already have in-house.

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ADDITIONAL DIAGNOSTIC QUESTIONS:
What would it cost to create workaround methods for these commonly used techniques in another program?
How much would it cost to deploy those solutions?
What would it cost to train users to utilize them?
And, finally, how much productivity would you leave on the table so you could use a "free" CAD program?

3. Does the software support TrustedDWG compliance and file interoperability?

If you've ever tried to import a file from another program only to experience a crash, you know how much time and effort it can take to resolve the problem. Since time is money, it becomes obvious how much money could be lost dealing with file interoperability issues from low cost/free programs like these:

- Not being able to read the latest DWG™ format accurately.
- Not being able to import/export other industry standard formats accurately.
- Not being able to open files with complex entities (like polygonal viewports or 2D representations of 3D projections) authored by other Autodesk® software.

Since AutoCAD LT is produced by Autodesk, it creates files with TrustedDWG™ technology to ensure compatibility with the newest version of AutoCAD.

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ADDITIONAL DIAGNOSTIC QUESTION:
It is highly unlikely that Autodesk will go out of business and stop supporting AutoCAD LT next year - can you say that about your low cost/free program?

4. Does the software support broad import, export and overlay options?

More and more, CAD users aren't just producing standalone drawing files; they are importing, overlaying or exporting other data formats as part of a diverse digital design environment. As an example, even casual AutoCAD LT users can be called upon to export PDF files, perform CAD design over digital maps, or read in DGN design data from a municipal department of transportation. With AutoCAD LT these tasks are no problem since they work just as they do in AutoCAD, using the same proven drivers as AutoCAD does.
These types of specific file import, export and overlay operations can either be absent or poorly executed in low cost or free products based on my past evaluations.

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ADDITIONAL DIAGNOSTIC QUESTIONS:
What would the absence of these options mean in your typical project workflows?
How much time might you spend finding the right drivers and conversion utilities to deal with these types of shortcomings in another program?
Are you willing to live with limited abilities just so you can use a "free" program?

5. What does low-cost software ‘actually’ cost?

Using a little back of the envelope accounting we can do a rough calculation to demonstrate that AutoCAD LT can actually cost less than other low-cost or even free programs you may have seen. To do the math we’ll use the following numbers:

Annual cost of AutoCAD LT per user: **$360**
(Autodesk’s suggested retail price)

Full labor cost of AutoCAD LT user: **$40/hr**

Now consider the following time estimates for moving to a “free” CAD program instead of AutoCAD LT. *Note: For each task a number of hours per user per year is included in parentheses:*

- Bugs due to data incompatibilities (4 hours)
- CAD administrator time to resolve above (2 hours)
- Workaround procedures to import/export to other software (4 hours)
- Training for non-AutoCAD specific commands (4 hours)

Total cost = 14 hrs/user/year * $40/hr = **$560 per user per year**

My own experience has lead me to believe that the 14 hours per year per user outlined above is a very conservative estimate of the time an organization spends dealing with the problems that come from a low-cost/free CAD program.

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ADDITIONAL DIAGNOSTIC QUESTION:
When is $360 a year cheaper than free? Answer: When the free alternative costs you more to implement, support and train than AutoCAD LT.

Summary

I've seen lots of companies try to displace AutoCAD LT with low cost or free CAD programs in years past and the outcomes have always been the same: Glitches, disappointments, implementation problems and eventual lack of support. I've talked with management teams who've regretted the "going free" approach as they've tallied up the actual costs accrued in using their free programs.

There's an old adage that says "you get what you pay for" but in the case of AutoCAD LT you actually get more than that. So before you or your company makes a decision on what program to use for your casual 2D CAD users, I encourage you to go through the top 5 questions, and the additional diagnostic questions in this piece and tally up how much you'll spend to support a low cost or even free product. You may find that AutoCAD LT is the best low-cost – or even free - option available.

About Robert Green

Since 1991 Robert Green has provided CAD management consulting, programming, training, and technical writing services for clients throughout the United States, Canada, and Europe. A mechanical engineer by training, Robert has used many popular CAD tools in a variety of engineering environments since 1985. Robert has acquired his expertise in CAD management via real-world experience as the "alpha CAD user" everywhere he has worked. Over time he has come to enjoy the technological and training challenges associated with CAD management, and he now trains CAD managers via public speaking. Robert is well known for his insightful articles in Cadalyst magazine and for his book, Expert CAD Management: The Complete Guide (published by Sybex). When he's not writing, Robert heads his own consulting practice, Robert Green Consulting, based in Atlanta, Georgia.