



An experts guide on how to buy a projector for your business

The importance of a projector for collaboration, and how to choose the right one for your business



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Why buy or upgrade your projector for your meeting spaces?

Bain & Company found that a single weekly meeting of midlevel managers was costing one organization \$15M a year. A quality business projector is the most affordable and often the most effective tool to present information and facilitate collaboration – especially with larger groups.

But choosing the right projector can be a headache. Some projectors have filters that need to be cleaned, while others have lamps that need to be replaced. Some projectors may turn yellow over time – or could have shorter warranties if used too much. So how do you pick the right one so you can focus on your business – and not your AV equipment? This e-book will help you learn how to compare different projectors, what to look for, and what to avoid.

Step #1 – Get the Basics Right

How Bright should my projector be – 4000 lumens or 5000 lumens?

When you are considering a projector for a meeting room, try to get the brightest projector possible. Brighter projectors are easier to read and can make a bigger image on the screen. Most meeting rooms are well lit, and the typical projector today sold to businesses should be at least 3500 ANSI lumens. Today you can easily find affordable 4000 and 5000 lumen projectors using lamps or laser technology. While there are models that are brighter than these, many are designed for large venue applications such as an auditorium or a stage.

Expert Tip – Use ANSI Lumens as your ONLY brightness measurement when choosing a projector to avoid a disaster.

If you happen to be shopping for a projector on Amazon or other online stores, you may see projectors that advertise 6000 lumens or more for under \$300, while other projectors on the site cost twice as much but only have 4000 lumens. So what gives?

The difference is that these lower-cost products don't use the standard ANSI lumens measurement when they advertise brightness, which means they often dramatically overstate the projector brightness. Imagine purchasing a 6000 lumens projector that you cannot read in a room with windows – just because you didn't read the fine print where they left off the word "ANSI" –and have no recourse.

For example – a recent lawsuit against one of these manufacturers found some models that claimed to have "2000 lumens" only delivered 18 actual lumens to the screen when using the standardized ANSI measurement. Bottom line – if you want to make sure you are buying the right projector for your business – make sure that you only use ANSI lumens as your brightness guide.

What is the Right Screen Size & Shape?

If you are reading this on a computer screen, then most likely you are looking at this e-book on a widescreen display. If you are reading it on a smartphone, you are also looking at a widescreen display. However, if you are shopping for a projector, you may be surprised to find that according to Futuresource, nearly half of the projectors sold worldwide are still on the old 4:3 TV aspect ratio. Why? These are often less expensive than widescreen projectors. But for a modern business meeting room – you most likely want a widescreen around 100 inches for a projector a typical 4000 lumen or brighter projector (using ANSI measurement of course).

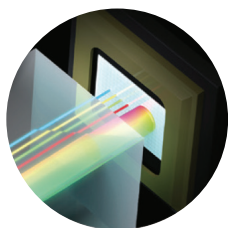
Expert Tip – Get as much resolution as you can afford – it will more than pay for itself.

In 2019, nearly every television sold in North America had 4K resolution. However, for projectors, there are a lot of lower resolution options that cover a variety of price points – so get as much resolution as your budget allows.

For example, an entry-level WXGA 3600 ANSI lumen meeting room projector with an all-glass lens can be purchased online for [\\$429 from a market-leading brand](#) and displays just under 1 million pixels. For only \$120 more, you can get the [same projector](#) in 1080p resolution that renders over 2 million pixels. The difference when reviewing a spreadsheet with small text is remarkable, especially for the low price difference.



4K DLP chip generates 8.3 million pixels



Recently, the development of new 4K DLP technology from Texas Instruments has transformed the projector market, enabling a 5000 lumen laser projector to put nearly 8.3 million pixels on the screen from mainstream [retailers such as CDW](#) for under \$5000. These projectors enable large screens over 100 inches where you can see every detail in crisp, accurate color – exactly what you need for effective collaboration. Bottom line – your projector is displaying the information you need to make the best decision possible – so look at the long term benefits of an easy-to-read higher resolution model.

How far away does the projector need to be mounted? Explaining “Throw Ratio” & “Lens Shift”

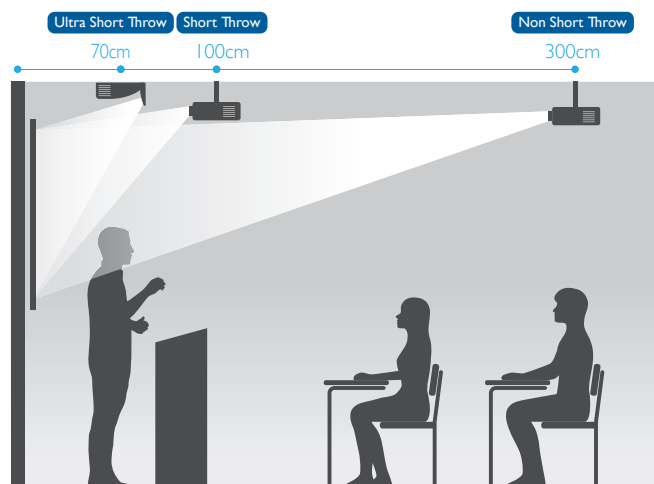
The easiest way to understand “throw ratio” is that it is just like the camera on your smartphone. You have to be a certain distance away to take the picture. And just like the new iPhone 11 Pro, you have lots of options on how far the projector needs to be from the screen.

While the exact distance will vary by model, a typical “regular throw” projector can be mounted or placed on a table about [8-10 feet away from the screen](#) to generate a 100-inch image. For a medium-sized 10 person conference room, this will often be close to the middle of the table and minimize the length of HDMI cable needed if the projector is ceiling mounted with cables running through the floor and wall.

As the name implies, “Short Throw” projectors are like the wide-angle version of your smartphone camera and enable you to put the projector closer to the screen. This is ideal for smaller meeting rooms, especially those where the projector sits on the table. You can put the projector at the end of the table so everyone sits behind it, eliminating the risk of accidentally looking at the projector. If you want to directly interact with the image on the screen, you will most likely be looking at an “Ultra Short Throw” projector. These projectors have lenses that enable you to mount the projector directly to the wall above the screen – and can be ordered with interactive cameras that enable you to annotate directly on the image and save it to your notebook. These types of projectors are an alternative to a flat panel display, especially if you want an image bigger than 75 inches on the wall for a collaboration space or huddle room.

Expert Tip – Lens shift can make it easier to adjust the image to match the screen.

Many projectors can shift the display from side to side – or up and down – by moving the lens inside the projector. This feature is called lens shift – and is common on home theater projectors and many commercial projectors. If you are mounting the projector yourself, it is an easy way to correct for any errors you make if you put the mount in the wrong place, as you can shift it to the correct location without distorting the picture. If you are having an integrator do your mounting, it does not matter as much, as they should be able to properly center the image on the screen, unless you have special mounting requirements.



Step #2 – Get the right Technology and Brand

Should I get a Laser projector or one that uses a traditional lamp?

The development of affordable projector lamps around the year 2000 enabled multimedia projectors to become more common in meeting rooms. While lamp-based projectors are less expensive than laser projectors, the high cost of replacement lamps for 4000 lumen and 5000 lumen business projectors has driven the development of brighter laser projectors that will last up to 20,000 hours. So how do you decide which one is right for your meeting room?

Looking for a low purchase price? Get a lamp-based projector

If you are looking for a solid widescreen with 1080p resolution (2 million pixels) and 4500 lumens that will display razor crisp text and compelling infographics for around \$1000, then a lamp-based projector [like this one](#) might be the right choice for you. The typical lamp life on a projector like this on full brightness is around 2500 hours that can be extended to 4500 hours using a smart eco mode. This is ideal if you don't use the meeting room that much, and don't mind the hassle of replacing the lamp.

Looking for more effective meetings and a lower cost of ownership? Get a laser projector

Laser projectors are more expensive to purchase than a lamp-based projector – [but easily pay for themselves](#). First, they turn on instantly without any warmup – saving expensive meeting time. Secondly, they produce more accurate color for your logo's and presentations. Finally, they are less expensive to use over time. For a meeting room that is used at 70% capacity, a traditional projector may need a replacement lamp every two years. By contrast, a laser projector won't need any maintenance for over 10 years on the same usage model.

Which is better – DLP or LCD Technology?

Over the last 10 years, about half of the projectors sold used DLP technology, and the other half used LCD technology. These technologies are completely different on how they create an image- and both technologies

have strong advocates on why they are the best. What are the key differences and which one is right for your meeting room?

Color performance

Both DLP® and LCD projectors can produce bright and accurate colors, but the color performance of each projector will vary by each brand and model. DLP technology has been the primary reason the movie industry transitioned from film to digital projectors, won two Oscars, and is used in over 70% of commercial cinema projectors worldwide. It can display a very accurate color to ensure that your logo and photos look correct, especially those that use lasers.

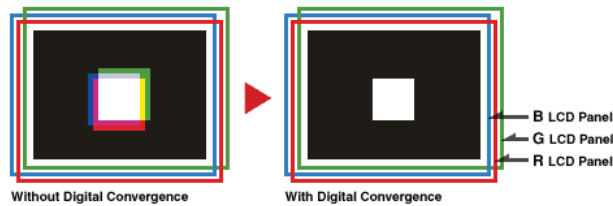
Expert Tip – Look for a projector specifies the color accuracy of the projector. Typically these are quoted as a percentage of a standardized color space such as Rec 709.

Filters vs. Filter Free Architecture

This is perhaps the biggest difference between projectors using DLP and LCD technology. Nearly all projectors that use LCD have a special filter that is required to keep dust out of the projector. These filters need to be cleaned and replaced regularly. If they are not maintained, the projector will display warning signs that, if disregarded, can cause the projector to overheat and create all kinds of problems.

DLP projectors are typically filter-free since the DLP chip is sealed under glass when produced. For laser projectors, many brands offer additional certifications such as IP5X, where the projector is subjected to an intense dust environment (just like a fitness watch) to simulate years of use. These projectors can be mounted and operated without any regular filter cleaning, reducing the cost ownership – and a distracting warning light that appears in the middle of your presentation.

Expert Tip – Look for a laser projectors with DLP technology that has either an IP5X or IP6X certification for a 4000 lumen or brighter projector. This will enable you to mount the projector on the ceiling or other difficult to reach space without worrying about having to get on a ladder or lift to clean the filter in a meeting room.



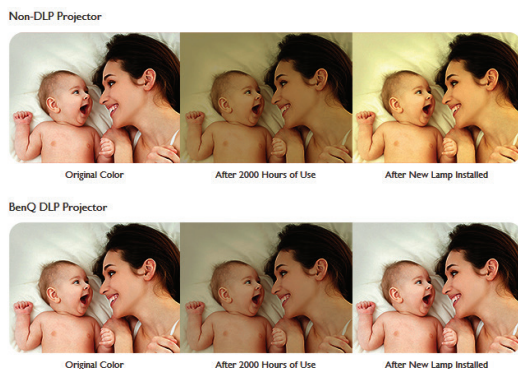
Convergence

Typical LCD projectors use three panels that need to be perfectly aligned to avoid color overlap, while a typical 5000 lumen DLP projector will only have one DLP chip – ensuring that the image is sharp over the life of the projector.

Expert Tip – If you buy an LCD projector, make sure to check out how to adjust the panels if they become misaligned.

Fill Factor & Yellowing

Ever seen a projected image where the pixel is surrounded by a black box or one that looks like it is turning yellow? These are projectors with a low fill factor typically found on less expensive models or a model that uses imaging technology that can wear out over time. By contrast, DLP chips are rated to last over 100,000 hours without degradation.



Expert Tip – Most DLP projectors will have high fill factors and are immune from color decay.

What Brands should I consider?

According to Projector Central, there are nearly 40 companies selling projectors in 2020, but also dozens of major brands who have exited the market over the last few years. For customers with discontinued projectors, it becomes difficult to source products such as lamps and can be more difficult to obtain repairs or support. According to Futuresource, here is brand information that may help you choose the right projector for your business.

What are the Top Three Projector Brands?

The leading brands of projectors typically have a full array of models for different applications, advanced engineering, and dedicated manufacturing facilities. For example, BenQ is the leading brand of DLP projectors and offers over 70 different projector models in North America. Here are the top three worldwide brands of projectors according to Futuresource.

- BenQ
- Epson
- Optoma



What Brands no longer actively sell projectors?

Many recognized brands have sold projectors in the past but exited the market. You may find models of these projectors still available for sale for some resellers. However, It may be difficult to get parts or service for these brands.

- Mitsubishi
- Sanyo
- Sharp
- ASK / Proxima
- Samsung
- Toshiba
- 3M



In Touch with Tomorrow



The brands below have been showing declining sales of over 50% between 2014 and 2019 according to Futuresource. This may indicate that fewer resellers are selling them, that they have fewer models available, or the company could be shifting their focus to other markets.

- InFocus
- Dell



Step #3 – Get the right Technology and Brand

Trying to do a side by side comparison of a projector can be a difficult process, as most retail stores no longer demonstrate business projectors. So how do you pick the right one for you?

The examples below are common business applications for projectors and we compared top-selling models from recognized brands to highlight how you might want to evaluate your needs. All the specifications and pricing information comes from projectorcentral.com and may change over time.

Example #1 – Short Throw projector for small meeting room

Do you have a huddle space where you want to put a projector on the table or mount it close to the screen? You will want a short-throw projector that can generate a 100 inch or larger image from just six feet away. Here are some popular models to consider.



Huddle Room	BenQ MW826 Projector	Epson 535W Projector	BenQ LW820 ST Projector
Brightness	3400 ANSI lumens	3400 ANSI lumens	3600 ANSI lumens
Aspect Ratio	Widescreen	Widescreen	Widescreen
Resolution	WXGA	WXGA	WXGA
Light Source	Lamp	Lamp	Laser
Lamp Life – Full Power	5000 hours	5000 hours	20,000 hours
Imaging Technology	DLP	LCD	DLP
Filter-Free Design	Yes	No – requires filter cleaning	Yes – IP5X Certified
Color Performance	Not Specified	Not Specified	93% of Rec 709
Approximate Price	\$749	\$1099	\$1599

Example #2 – 5000 Lumen laser projector for a conference room

These projectors are common in meeting rooms that hold 10 or more people, where you want to see a large screen with plenty of detail. Typically they are ceiling-mounted and connected with either a cable run through the conference room table or a [wireless presentation system](#) such as the BenQ InstaShow. The BenQ LU950 features a unique HDMI out port for easy staging or stacking of the second projector without running an additional cable.



Conference Room	BenQ SU765 Projector	BenQ LU950 Projector	Panasonic PT-RZ570 ST Projector
Brightness	5500 ANSI lumens	5000 ANSI lumens	5200 ANSI lumens
Aspect Ratio	Widescreen	Widescreen	Widescreen
Resolution	WUXGA	WUXGA	WUXGA
Light Source	Lamp	Laser	Laser
Lamp Life – Full Power	3000 hours	20,000 hours	20,000 hours
Imaging Technology	DLP	DLP	DLP
Filter-Free Design	Yes	Yes – IP5X Certified	Yes
Color Performance	Not Specified	92% of Rec 709	Not Specified
Approximate Price	\$1679	\$2799	\$3199

Example #3 – 4K Laser projector for a collaboration space

The latest projectors for collaboration spaces have it all. Sharp 4K resolution makes the small text in spreadsheets easier to read, detailed photographs, and native support for Blu-Ray content. 4K resolution is especially important if you are splitting the screen for multiple presenters to be on the screen at the same time.

Expert Tip – Some projectors advertise “4K” using language like “4K Pro UHD” but do not deliver the same number of pixels to the screen. If you want true 4K resolution, make sure to check the actual resolution that is described in the specification – not the marketing material.

Here is an example of popular models and their specifications from Projectorcentral.com.



4K Collaboration Space	BenQ LK952 Projector	BenQ LK953ST Projector	Epson Pro L1060UNL Projector
Brightness	5500 ANSI lumens	5000 ANSI lumens	6000 ANSI lumens
Aspect Ratio	Widescreen	Widescreen	Widescreen
Resolution	3840x2160; 8.3M Pixels	3840x2160; 8.3M Pixels	1920x1200; 2.3M Pixels
Light Source	Laser	Laser	Laser
Throw Ratio	Normal	Short Throw	Lens not included – purchased separately
Lamp Life – Full Power	20,000 hours	20,000 hours	20,000 hours
Imaging Technology	DLP	DLP	LCD
Filter-Free Design	Yes – IP5X Certified	Yes – IP5X Certified	No – requires filter cleaning
Color Performance	95% of Rec 709	95% of Rec 709	Not Specified
Approximate Price	\$4499	\$5049	\$7497 plus lens

Example #4 – Interactive projector for a training room

Ultra Short Throw projectors for training and briefing rooms are a great way to get a large image on the wall while enabling you to interact and control with your content in your notebook. These projectors typically use special lenses to enable the projector to mount directly on the wall instead of the ceiling and have optional interactive cameras that enable you to “write” on the image with a special pen. BenQ’s UST Laser projectors never need a lamp – or filter cleaning – ever. Some brands include a wall mount specially made for the projector. Here is an example of some top-selling models.



Training Room Projector	BenQ MW855UST Projector	BenQ LU890UST Projector	Epson BrightLink 1485Fi Projector
Brightness	3500 ANSI lumens	4000 ANSI lumens	5000 ANSI lumens
Aspect Ratio	Widescreen	Widescreen	Widescreen
Resolution	WXGA	WXGA	WXGA
Light Source	Lamp	Laser	Laser
Throw Ratio	Ultra Short Throw – Maximum 100” screen	Ultra Short Throw – Maximum 119” screen	Ultra Short Throw – Maximum 99” screen
Lamp Life – Full Power	3000 hours	20,000 hours	20,000 hours
Imaging Technology	DLP	DLP	LCD
Filter-Free Design	Yes	Yes – IP5X Certified	No – requires filter cleaning
Color Performance	Not Specified	93% of Rec 709	Not Specified
Approximate Price	\$1412	\$2249 includes wall mount	\$3390 includes wall mount

Wireless Projection Options

One problem with projectors in a meeting room is that running a cable from underneath the meeting room table to a ceiling-mounted projector can be quite expensive. While the cable is affordable, the cost of running it through a floor or wall to reach the projector can be costly. The solution? A Wireless Presentation System.



With a wireless presentation system such as the BenQ InstaShow, you simply attach a receiver on the projector, then connect to the receiver either through the transmitter button connected to your notebook or via a standardized protocol such as Miracast or AirPlay. Most companies use buttons since they allow you to connect in seconds without any hassle. The other benefit is that you can have multiple presenters share their content at the same time. If you want to compare the cost wireless presentation system compared to running an HDMI cable, [this article](#) may help you see what is best for your meeting space.

Want to talk to an expert who can help you with a projector?

Sometimes it can be difficult to find answers to your questions when trying to find the right projector for your business. Since most retailers don't have experts on the floor that can help – where can you turn?



For customers looking for advice on choosing the right projector for their business, you can talk directly to an experienced BenQ product expert who has access to over 70 different projector models and can guide you to the best one for your application. We also can help you find a reseller nearby, or if you want, you can purchase one right on the phone. You can reach them at 888-818-5888. If you want to email them instead, you can reach them at BenqB2B.BQA@Benq.com

Other resources

Projectors have been on the market for a long time, and you can find more detailed answers to your questions on the BenQ Knowledge Center which has more detailed articles on common questions. You can also check out reviews of popular models on many websites including projector focused websites like Projectorreviews.com.

You can also use projector throw distance calculators to determine what the correct mounting distance away from the screen – or figure out how big of a screen to buy at from your mounting location. Most brands have their own, such as the BenQ Projector Calculator found [here](#).