

THE ULTIMATE GUIDE

to Email Optimization + Troubleshooting

Email has become one of the most powerful channels to reach consumers. Today, there are over 205 billion emails sent each day and over 2.6 billion email users, according to research by [The Radicati Group](#). And, these numbers are expected to exponentially increase. By the end of 2019, the number of worldwide email users will increase to over 2.9 billion—a figure that represents over one-third of the world’s population.

Not only do people have email accounts, but they want to receive emails. It’s the channel consumers prefer most for brand communications, with [74% of consumers](#) saying they prefer companies to communicate with them via email over any other channel.

Subscribers are specifically opting in to receive communications with brands, and this is where the real value of email marketing comes into play. They’re raising their hand and asking you to communicate with them. This is a far cry from display, search, and social advertisements, which consumers see regardless of their opt-in preferences.

With email, you’re targeting people who already have an interest in your brand. This is why it has [the highest return on investment \(ROI\)](#) among digital marketing channels.

But, just because someone gives you their email address doesn’t mean you can send them whatever you want. Use email to communicate, educate, and build a community around your brand, not solely to push your products and services on your subscribers.

Instead of solely thinking of your company’s ROI and their benefits, focus more directly on your customers, on your subscribers. Think about their needs, wants, and expectations. Be relatable. Be helpful. Be human.

But, this is easier said than done. A lot goes into a creating a successful email marketing campaign. In this ebook, we’ll take a look at how to build great emails, including tips on how to:

- Define your goals
- Craft your content
- Determine the appropriate audience
- Optimize for the inbox
- Create great designs
- Reach the inbox
- Thoroughly test your emails
- Troubleshoot common rendering issues
- Analyze results to inform future campaigns

By the end, you’ll be positioned for email success.

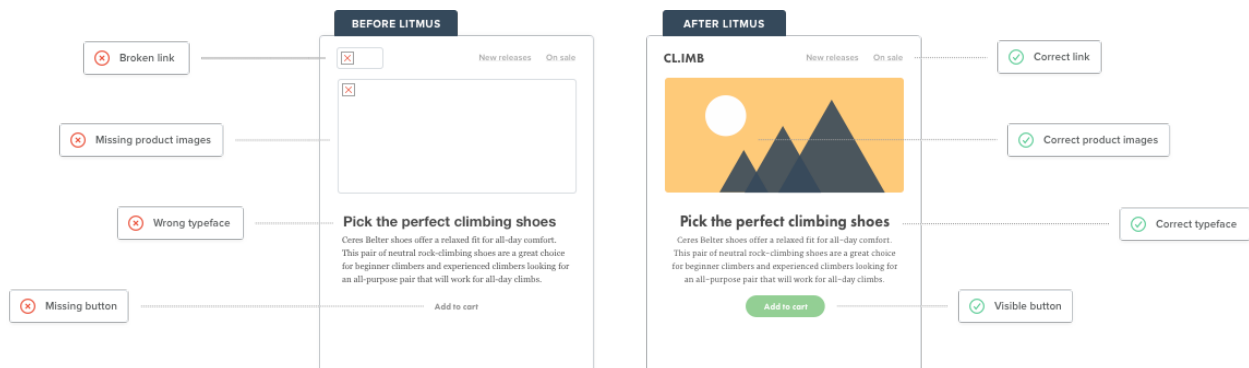


Who Is Litmus?

Litmus is passionate about email marketing research, because our mission is to help brands get access to the knowledge and tools they need to send better email. Through our industry-leading [blog](#), [Litmus Live conferences](#), [ebooks](#), [webinars](#), [Email Design Podcast](#), and more, we discuss best practices and explore trends to help your team stay on the forefront of the industry.

We are also passionate about software that makes creating high-performing email easy. Marketers use the Litmus Email Creative Platform alongside their existing email service provider to ensure a consistently great brand experience for every subscriber, work more efficiently, accelerate campaign performance, reduce errors, and stay out of the spam folder.

Email marketing is complex. But through hands-on advice and software you can trust, we enable your team to do their best work—creating innovative, on-brand campaigns that engage and delight audiences. With the Litmus Email Creative Platform, you'll have the tools and insights you need to provide your customers with an incredible email experience—and get the best results in return.



Never Send a Broken Email Again

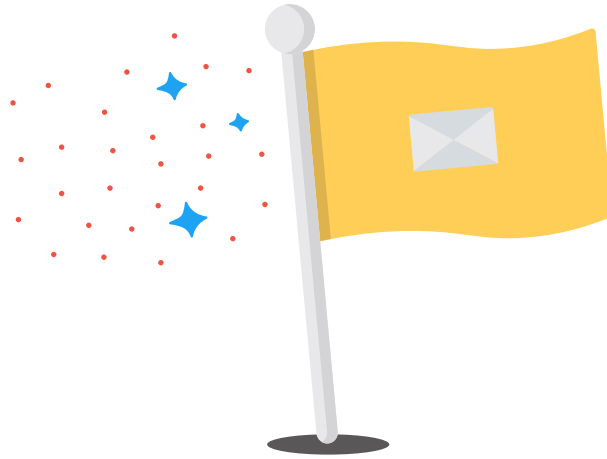
Join over 250,000 other companies and use Litmus alongside your existing email tools to send email with confidence, every time.

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SET YOUR GOALS

Before you start writing copy or planning your design, define your campaign's goals. It helps guide the direction of your campaign, and makes it easier to measure the success of your efforts.

When it comes to [successful goal setting](#), identify what actions you'd like your subscribers to take, and the benefit to your subscribers—why your subscribers should care. After all, the most successful email marketing benefits both the company sending and the person receiving the email. Lastly, you'll want to determine how you'll measure whether the goals were accomplished or not.

Identify the action: What do you want subscribers to do?

Why are you sending the email? Are numbers down and you're looking to increase sales? Are you trying to ramp up registration for an event? Do you want to launch a new product?

Answering the *why* will help determine what you want your subscribers to do. It defines the call-to-action (CTA) of your campaign. The main CTA (and, therefore, main goal of your campaign) should be extremely clear. Make it easy for your subscribers to take action. This doesn't mean that you can't have other links in your campaign, but the main content and focus of the email should be working toward one goal.

Determine the benefit: Why should your subscribers care?

Many marketers are focused on how email marketing can benefit their company's bottom line. When a subscriber clicks, you're that much closer to meeting your goal. But what is the benefit to the subscriber? In order to create a relationship with your subscribers, you need to think about them, too.

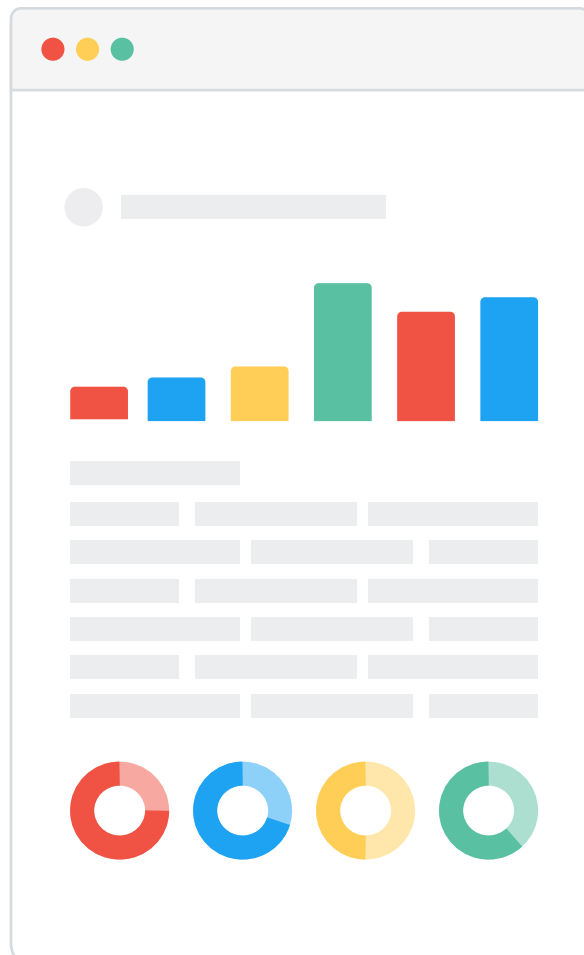
Consider the WIIFM factor—put yourself in your subscriber's shoes and ask, "What's in it for me?" If they read an article, will it increase their knowledge on a certain topic? If they purchase one of your products, will it make their job easier? If they register for one of your events, will they get to network and learn from others in the industry?

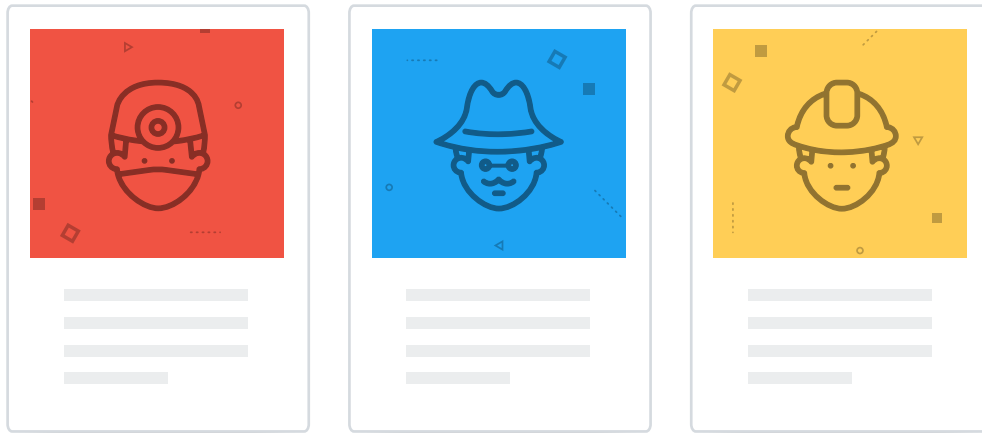
What all this boils down to is creating value for the subscriber and the sender. What's the value proposition to the user? Clearly state the benefit of taking the intended action, and use relatable, positive language.

Clarify metrics: How will you measure success?

You've defined the actions you want your subscribers to take, and the goals you're achieving when they take those actions. Now it's time to establish the metrics that determine when you've achieved the goal.

While open and click rates are two of the most popular ways of measuring email campaign success, they don't show the whole picture. For example, if your goal was content downloads, then that's the key indicator of whether your campaign was a success or not. Or, if your goal was an increase in sales, then you would look at revenue from the campaign.



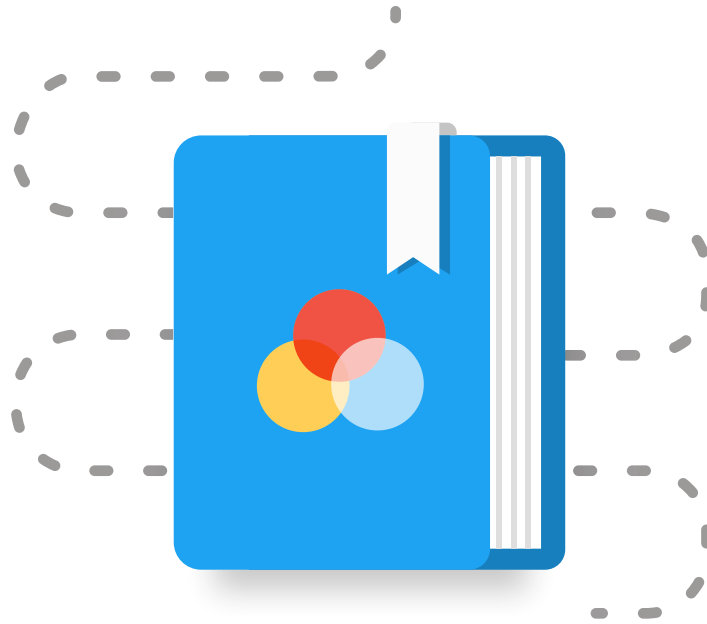


SEND TO THE RIGHT PEOPLE

Once you know the goal of your campaign and how you'll measure the success of that goal, take the next step: Define your audience. Sending a message to your entire list may not be beneficial to accomplishing your goal—and could lead to frustration, declining open and click rates, higher opt-out and spam complaint rates, and more.

For example, if you're sending a campaign with a goal of increasing refrigerator sales, it doesn't make sense to send that to your entire list. You wouldn't want to send to you subscribers that recently purchased a refrigerator through you, as they aren't in need of one anymore. Instead, you'd want to send that campaign to those who haven't purchased a refrigerator with you before, or those who haven't purchased one in many years. Those audiences are more likely to purchase than those that recently did. Plus, you don't risk annoying your recent purchasers.

This process, known as segmentation, provides one-to-some messaging that boosts relevancy, engagement, and ROI significantly. There are lots of ways to [segment your lists](#): by plan levels, past purchases, interests, in-app activity, and more. You can even [use Email Analytics insights to help segment your list](#).



CRAFT YOUR CONTENT

The content of your email has many components, including headlines, subheads, body copy, and CTAs. All of these aspects should work together to achieve the goal of your campaign.

When it comes to crafting your content, ensure that you're including only relevant information, you have a clear CTA, and you're complying with [spam laws](#).

Include only relevant content

Your subscribers receive dozens upon dozens of emails a day. This means you have to cut through the clutter to catch their eye and inspire them to open your campaign and take action. How do you do that through your content? Enter: relevance.

Including relevant content in your campaign means that you're tailoring your communication based on a multitude of factors, including past purchases, onsite activity, and plan type. You're creating a one-to-one, valuable communication with your subscribers.

Relevant content grabs your subscriber's attention and holds their interest, decreasing the likelihood that your emails will be deleted, ignored, or marked as spam.

Keep your content short and to the point. There is no need to cram a bunch of information into an email—save some of it for the landing page! Include only the key highlights and link to a site for more details. Emails are still the gateway to landing pages on websites, and getting subscribers to your website opens up richer, more engaging interactions.

Create content hierarchy + have a clear CTA

When it comes to planning your content hierarchy, take a look at your goals and prioritize content based on those goals. Use font sizes and weights, imagery, and other tactics, like bulleted lists, to emphasize that hierarchy.

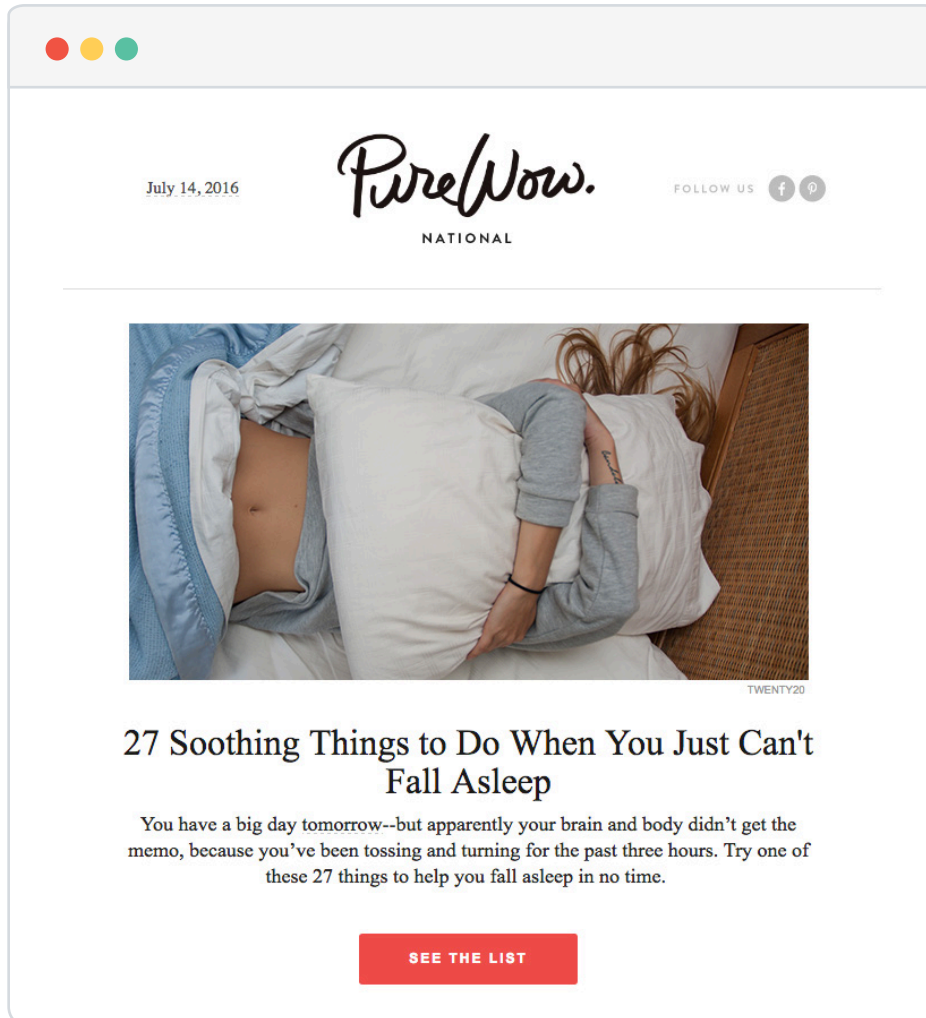
The copy and design of your email should lead your subscriber's eye toward the CTA. After all, if they can't easily find the CTA, then they may not be able to accomplish your stated goal.

[Every CTA should provide some value for the reader.](#) It should be clear to the subscriber exactly what they get for investing their time in your email and landing page.

The biggest mistake that marketers make is using weak, passive language in their CTA. A classic example is the infamous "click here". While "click here" may seem like a great CTA (it tells a subscriber exactly what to do), it really doesn't give a reader any incentive for taking action. It doesn't describe the value or what will happen if, in fact, they do click the link.

Instead, you should use language that describes why a user should follow a link. Use action verbs like "Book a cruise" or "Download the report" to describe what they will do by interacting with the CTA and, if possible, create a sense of urgency or timeliness.

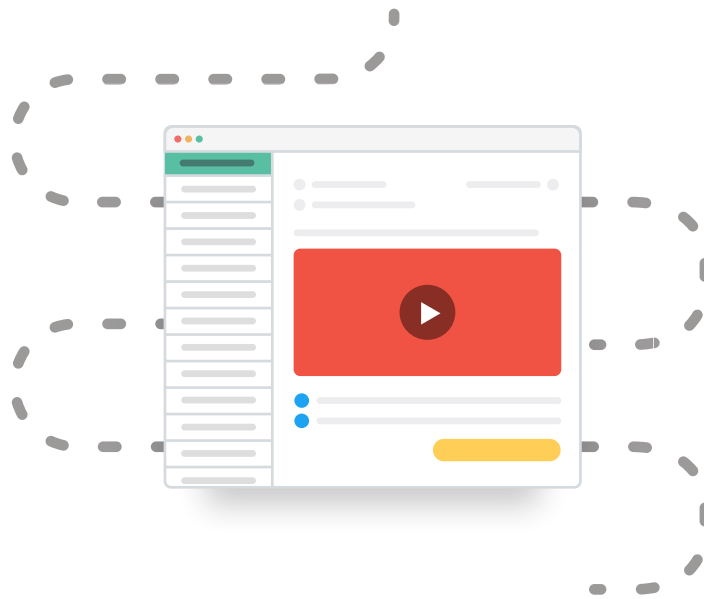
High commitment propositions, like “Buy now” or “Donate” that allude to spending time or money, can be scary for those that aren’t ready to take such significant actions. Instead, focus on low-commitment propositions like “Learn more” or “More details” that don’t require a huge investment in money or time from your subscribers.



Include contact information + a working unsubscribe

[Under CAN-SPAM and other spam laws](#), your email must include company contact information, a physical address, and a working unsubscribe link. We recommend making your unsubscribe link very obvious and easy to click.

It may be tempting to hide or minimize your unsubscribe link in an effort to keep list counts high. However, if a subscriber can't find your unsubscribe link, they may mark your email as spam as an alternative means of unsubscribing. Over time, high spam and complaint rates can lead to lasting impact on delivery rates or prevent your emails from being delivered at all.



OPTIMIZE FOR THE INBOX

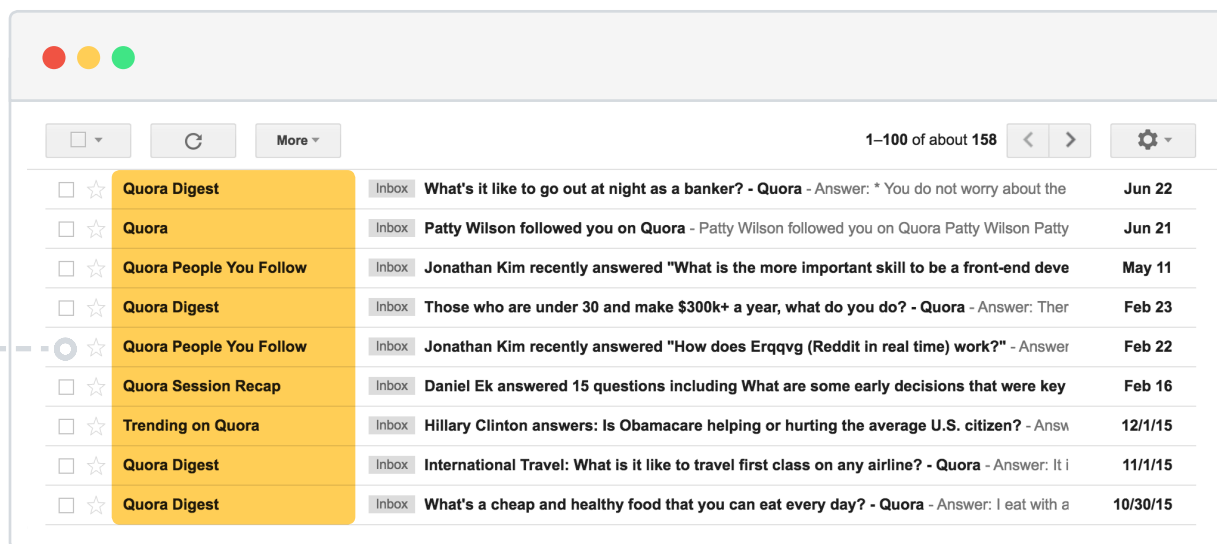
Before your subscribers can read the content in your email or click the CTA, they must first make the decision to open the campaign. This decision to open (or not) takes place in the inbox, where the subscriber will frequently see a few key pieces of influential information—your from name, from address, reply-to address, subject line, and (sometimes) preview text. And while the inbox is the first thing a subscriber sees, it's often the last thing considered when creating an email. Consider each of these critical elements to be prime targets for optimization & A/B testing.

Use a trustworthy + recognizable from name

The from name is the field that appears first in most email programs and is likely the first thing your subscribers look at when deciding whether to open an email. A successful from name will be recognizable and relevant to your audience, imparting trust and a desire to open.

Carefully consider the relationship between the subscriber and your brand—are they more likely to recognize the name of your brand/product, or the name of an individual at your company? A/B testing over time can reveal the right approach for you—it may be a mix.

For example, Quora uses different from names depending on the communication—“Quora,” “Quora Digest,” and “Quora People You Follow.” All these variations are recognizable since they include the brand name, but also set expectations of what to expect in the email.



Encourage replies with a friendly reply-to address



Choose an appropriate reply-to address

Email is an ideal way to receive vital feedback from customers, answer questions, and create a line of communication between brands and consumers. However, when an email's [reply-to address is a variation of “no-reply@brand.com,”](#) it turns what should be a communication highway into a one-way street—eliminating the opportunity for further customer interaction.

Not responding also appears unfriendly and uncaring. Replies are one of the engagement metrics that inbox providers look at when making blocking and junking decisions, so telling your subscribers not to reply to your emails deprives you of a valuable signal of engagement.

Consider the context of your email when choosing a from name and reply-to address. It may be appropriate for responses to an email to be directed toward specific individuals, a shared mailbox, or a customer service team. Avoid the inevitable confusion of combining a friendly from name with a no-reply email address, or vice versa.



Monitor responses

Chances are, your subscribers aren't paying close attention to fine print or specific instructions on how to respond to messages—instead, they'll simply hit reply, and expect a response. Make sure someone is monitoring the inbox for prompt replies.

Many senders opt to use a “no-reply@brand.com” email address because they are overwhelmed by the out of office messages and bounce email notifications after a large send. Luckily, many ESPs have functionality in place to prevent this from occurring. For example, they will collect all email replies and filter out any automated responses. This makes the reply process much more manageable.

If your ESP doesn't have that functionality, consider adding an autoresponder when your subscribers respond back. This can set expectations that you will respond to their inquiry, but it may take some time.

Even negative interactions can turn into positive ones, so be sure to respond back to feedback, inquiries, and questions.

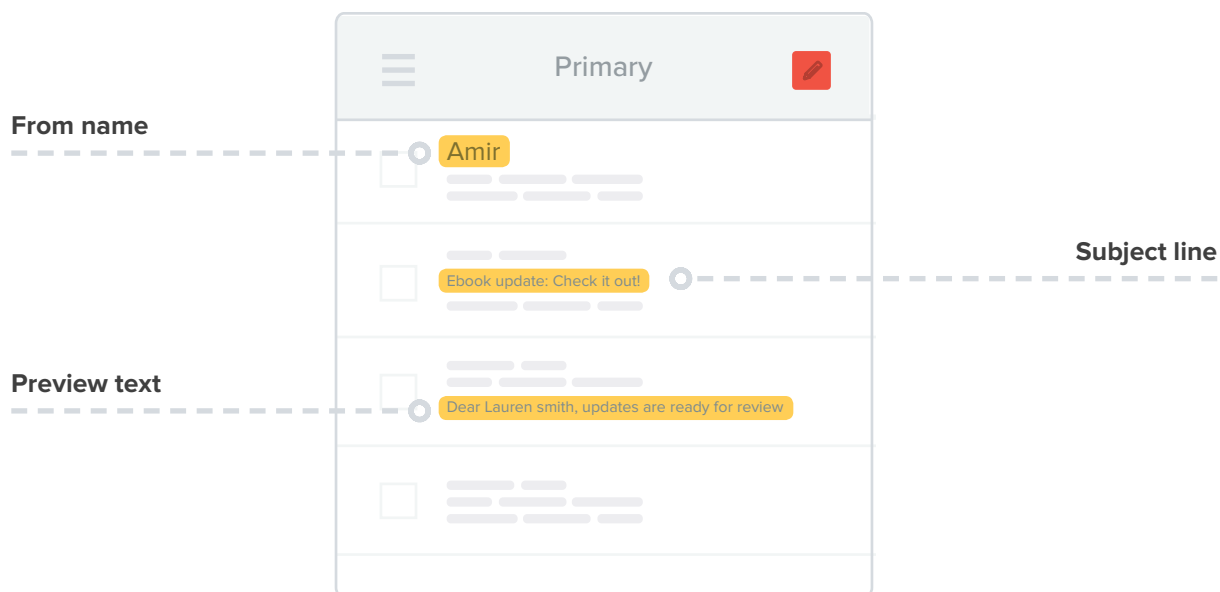
Get the open with a relevant subject line

There is no set formula for creating the perfect subject line. What works for one brand may not work for yours; it all depends on your audience. As a result, A/B testing subject lines is a great idea. That being said, out of all email elements, [subject lines are some of the most frequently tested](#).

One thing to keep in mind: Subject line length. Typically you only have about 50 characters for the subject line, although this varies by email client and app. For example, many mobile email clients will truncate subject lines after they reach a certain limit, cutting off a portion of your subject line. Be sure to preview your subject line across all environments to ensure your message is still clear and do avoid [embarrassing subject line mistakes](#)—even if it's cut off. Front load your subject lines by including important information or crucial keywords early.

Take advantage of preview text

[Preview text](#) is a bit of copy that typically shows up underneath or to the right of the from name and subject line in a subscriber's inbox. It is alternatively referred to as snippet text or a preheader.



Preview text will be automatically pulled into the inbox based on content in your email, but can also be planned ahead and used strategically to capture your subscribers' attention, encouraging them to open. Preview text can also influence behavior—encouraging subscribers to scroll and click specific content mentioned in the text.

While all inbox fields present fertile ground for optimization and A/B testing, optimizing preview text is frequently a quick win.

Which email clients display preview text?

Like everything in email, support for preview text varies. Even when preview text is supported, no two in-boxes look the same—both placement and character count vary.

Desktop	Preview Text Support	Avg # of Characters Displayed
Apple Mail	✓	140
Lotus Notes 8.5	✗	N/A
Outlook 2003	✗	N/A
Outlook 2007	✗	N/A
Outlook 2010	✗	N/A
Outlook 2013	✓	35
Outlook 2016	✓	35
Outlook for Mac 2015	✓	55
Mobile Email App	Preview Text Support	Avg # of Characters Displayed
Android Native App	✓	40
Android Gmail App	✓	*
Android Yahoo! App	✓	45
BlackBerry	✗	N/A
iOS Native App	✓	90
iOS Gmail App	✓	50
iOS Yahoo! App	✓	50
Windows Phone	✓	40

* Varies depending on the subject line length.

Webmail	Preview Text Support	Avg # of Characters Displayed
AOL Mail	✓	75
Gmail	✓	*
GMX	✗	N/A
Yahoo!	✓	*
Outlook.com	✗	N/A
Web.de	✗	N/A
Freenet.de	✗	N/A
Mail.ru	✓	*

* Varies depending on the subject line length.

Adding preview text to your email

Preview text is pulled from the first few lines of HTML text found within an email. It can either be visibly displayed or hidden in the body of your campaign.

If you've planned for the headline or first few lines of text in the body of your message to play off the subject line, adding separate preview text isn't necessary. However, be aware that boilerplate copy such as "View this email in a web browser" or "Forward to a friend" frequently appear before headlines in templates. Copy sequence matters when it comes to preview text—copy will appear in the inbox in the same order it appears in your email's HTML. Plan and test to be sure boilerplate copy isn't pulled into this coveted space.



Visible preview text

To include visible preview text in your campaign, all you have to do is ensure that the first bit of text in your email is what you want to be displayed in the inbox as preview text.



Hidden preview text

Including visible preview text isn't always possible—or desired. For example, if you're a retailer, maybe it's required that you include navigation links to your website, or a link to the browser version of the email. Maybe you just prefer the top of your email to look clean and simple. Luckily, there's a solution: hidden preview text.

Hidden preview text allows you to customize the text that is displayed in the inbox without displaying that text in the body of the email.

Hiding preview text using HTML and CSS requires some hacks, and there are a few different strategies you can use. Our solution includes CSS that instructs the text not to display. Since the 'display: none' property doesn't work everywhere, we've also included some fallbacks—like specifying that the text should match the background color and only be one pixel high.

```
<div style="display:none;font-size:1px;col-  
or:#333333;line-height:1px;max-height:0px;max-width:0px-  
;opacity:0;overflow:hidden;">  
  Insert preview text here.  
</div>
```

Using hacks like this to hide content occasionally brings up discussions of delivery issues since hiding content can look "spammy." Our experience has been that this technique, when used in conjunction with a permission-based list and clean sending reputation, doesn't cause deliverability issues.

Increase your open rate with Checklist

Optimize your subject line, from name, reply-to address, and preview text.

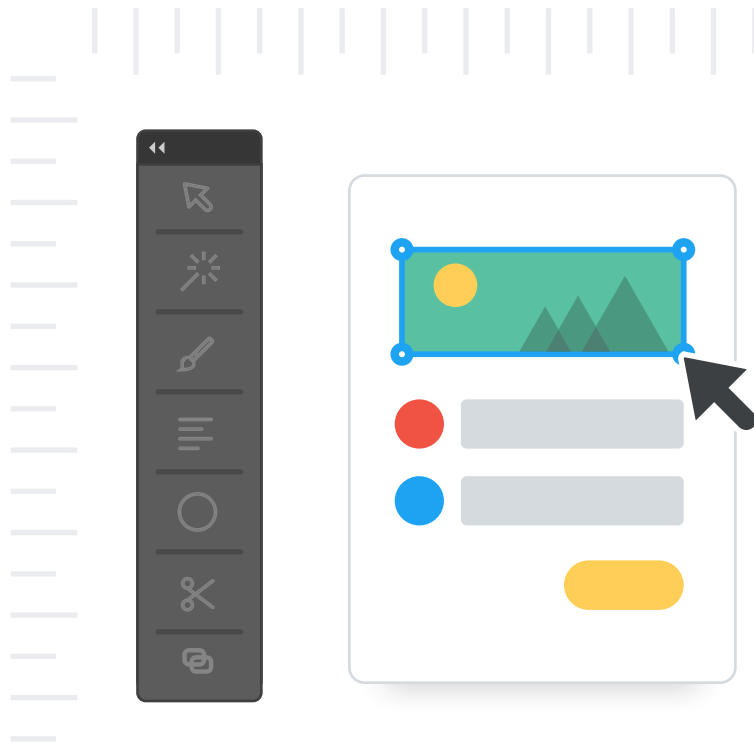
Try Litmus free

[Already have an account? Run a Checklist.](#)

The screenshot displays the Litmus Checklist interface for a campaign titled "New easy-to-use email templates (and they're free!)". The interface includes a navigation bar with a "Back to Checklist Dashboard" link, "Share options", "Add tags", and a "Retest" button. A sidebar on the right lists "Checklist Sections" such as "Previews", "First Impressions", "Links", "Tracking", "Image Blocking", "Loading Speed", and "Custom Checklist". The main content area shows a grid of email preview results for various desktop clients:

- Apple Mail 8 (OS X 10.10)
- Lotus Notes 7 (Win 7)
- Lotus Notes 8 (Win 7)
- Lotus Notes 8.5 (Win 7)
- IBM Notes 9 (Win 7)
- Outlook 2000 (Win 7)
- Outlook 2002 (Win 7)
- Outlook 2003 (Win 7)

Each preview card includes a thumbnail of the email as it appears in the client, a "Flag this for review" button, and a "Retest" button. The "Previews" section is currently active, showing a "View full-size email client renders side by side to make sure your email looks great." message and a "Retest" button.



GET YOUR DESIGN RIGHT

You've nailed your strategy, goals, and content. Now, it's time to make sure your email is readable, actionable, and accessible to everyone.

Accounting for screens large and small

Your subscribers have dozens of email apps to choose from. They can read your email on the Yahoo! Mail app on their iPhone while on the subway, Outlook 2007 on their desktop computer at work, and Gmail on their tablet at home. It's important to make sure you are creating emails that are optimized across all screen sizes.

Here are some helpful tips for creating beautiful and functional designs that look great everywhere:



Enlarge fonts

We recommend a 14px minimum for body copy and 22px for headlines to retain readability on small screens.



Use a touch-friendly CTA

Your subscribers aren't clicking anymore—they're tapping, too! We recommend buttons be a finger-friendly minimum of 44x44px.



Simplify your layout

Use a one-column approach or responsive design to accommodate viewing on smaller screens and increase legibility.



Streamline content

Evaluate the content in your email and get rid of the less useful or irrelevant links, copy, and images. Be concise, but still persuasive.

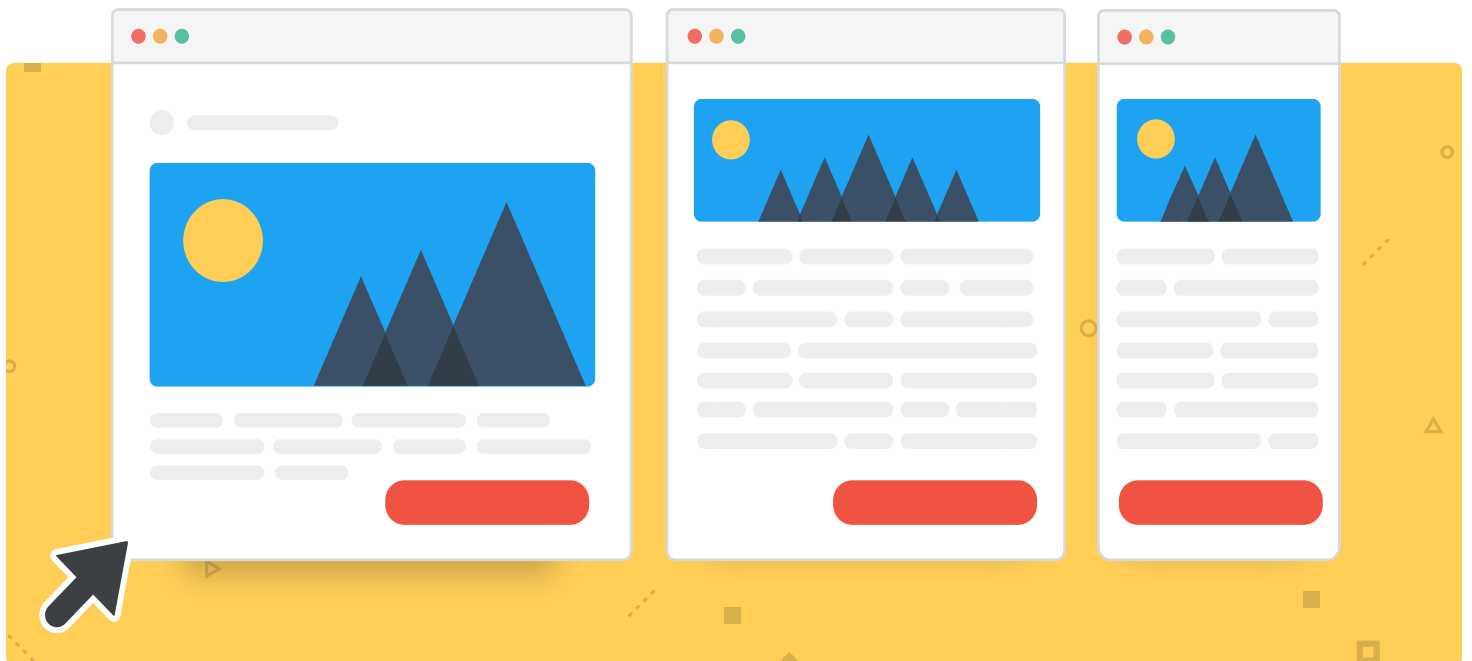
Optimizing for all screen sizes starts with choosing a strategy for how to approach the layout, design, and underlying HTML for your campaign. The approach you choose should consider your workflow, timelines, audience, and available resources. We've defined three design approaches suited to different skill levels, turnaround times, and subscriber requirements: scalable, responsive, and hybrid.

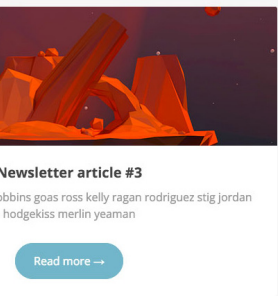
Scalable email design

Also referred to as mobile-aware, mobile-friendly, agnostic, or mobile-first, [scalable email design](#) can be defined as any design that works well in desktop and mobile apps without using code to adjust table or image sizes, or display or hide content between the two environments.

Scalable designs are the easiest of the three approaches to implement. Since scalable emails don't adjust the widths of tables or images between devices, and don't use CSS media queries to swap content or change the size of text, they are more accessible for teams without dedicated technical resources to produce. Since the same rendering of the email is viewed by all subscribers on all screen sizes, it's important to use the previously listed techniques—large fonts, simplified layouts, touch-friendly CTAs, and trimmed-down content—to retain legibility and keep emails actionable on both desktop and mobile screens.

While scalable emails are good for teams that need a less technical solution, more advanced solutions—like responsive and hybrid design—allow for better control over campaigns on different devices.

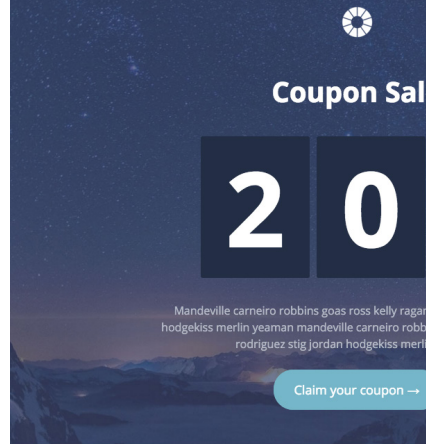




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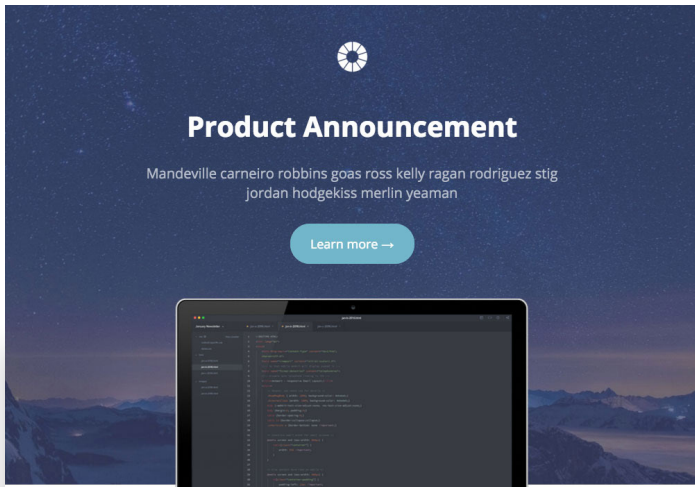
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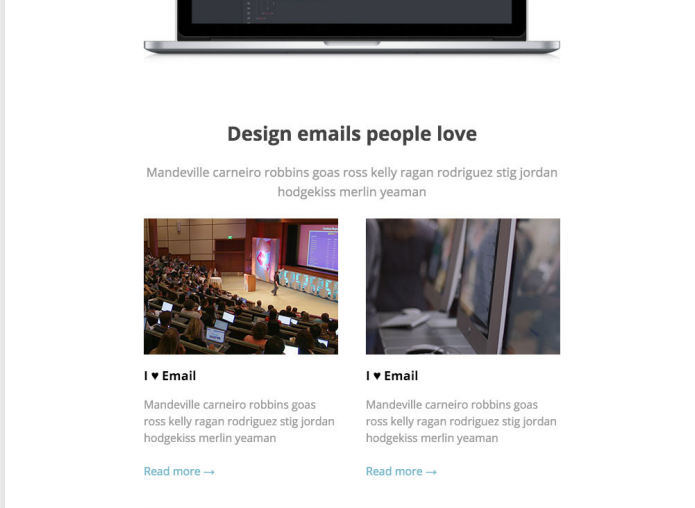
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Design emails people love

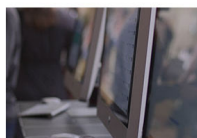
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I ♥ Email

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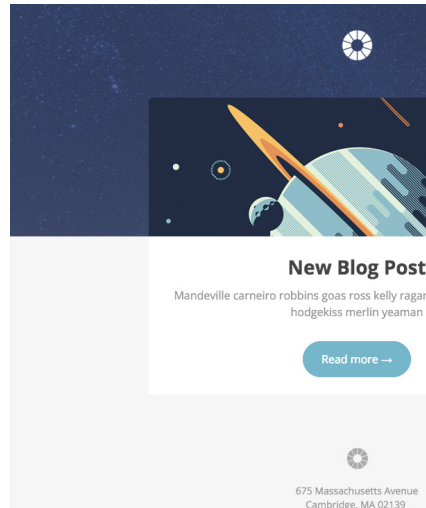
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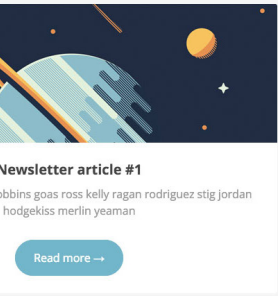


New Blog Post

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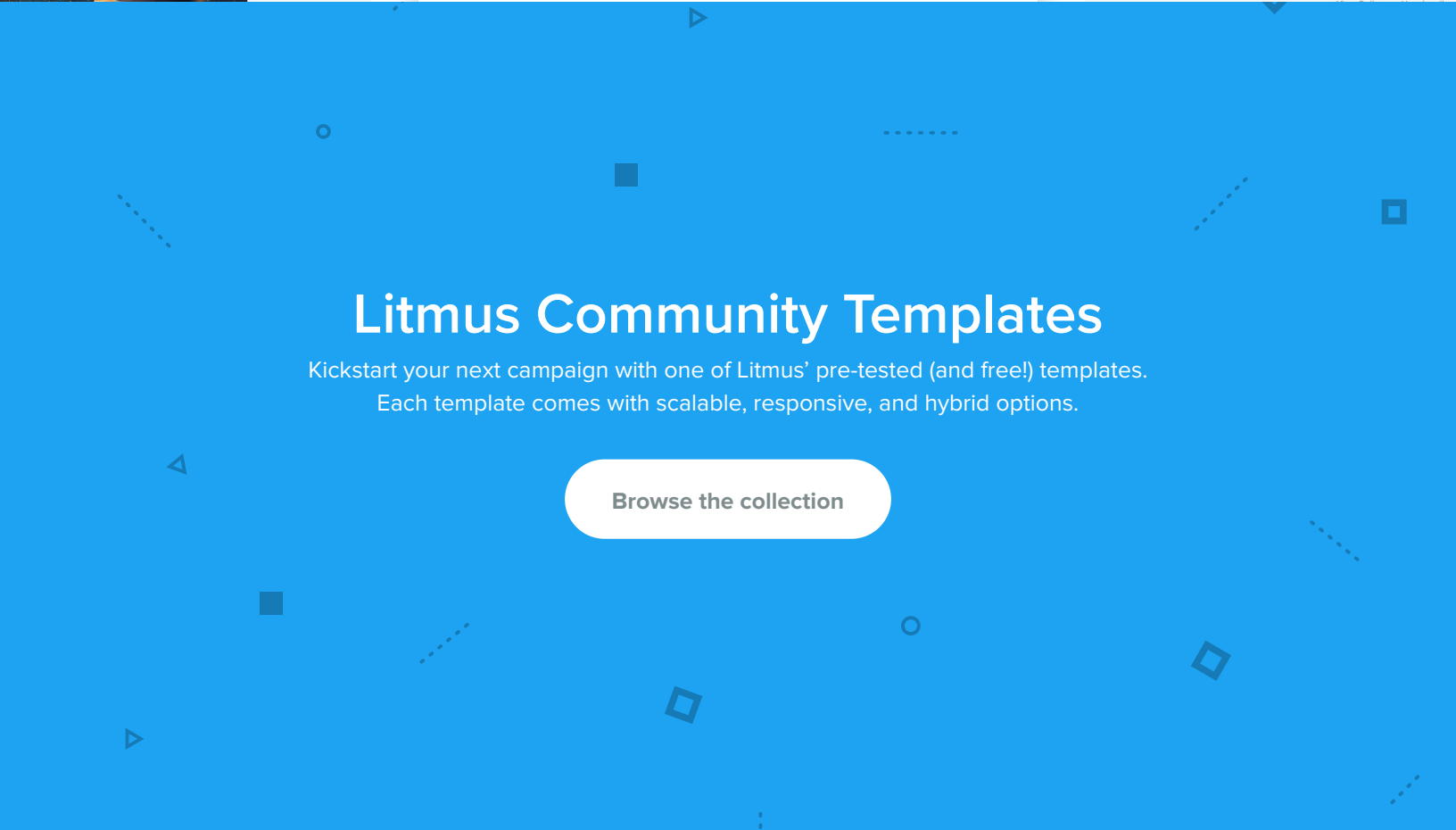
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Litmus Community Templates

Kickstart your next campaign with one of Litmus' pre-tested (and free!) templates.
 Each template comes with scalable, responsive, and hybrid options.

[Browse the collection](#)

Responsive

Responsive email design is a direct descendant of responsive web design, first popularized by Boston designer Ethan Marcotte in his fittingly titled book, [Responsive Web Design](#). While the implementation differs between the web and email, the principles are the same.

[Responsive email design](#) involves using fluid tables and images to make content flow across different screen sizes. This is achieved by using [CSS media queries](#) to change fixed-width tables and images on desktops into adjustable ones for smaller screens.

Using media queries can enable you to perform some impressive email acrobatics. Content can be shifted, hidden, and even swapped out, providing you with amazing control on mobile devices.

For example, you can take a complex, multi-column layout on desktop and streamline it into a single-column, easy-to-scan, easy-to-scroll design on mobile—complete with larger text and more touch-friendly buttons.

Though a powerful tool for optimizing for multiple screen sizes, you should be aware that media queries and responsive techniques [don't work everywhere](#).

Hybrid

The [hybrid approach](#), sometimes called spongy coding, is a direct reaction to clients ignoring media queries. Pioneered by MailChimp's [Fabio Carneiro](#), and popularized by the likes of [Mike Ragan](#) and [Nicole Merlin](#), it follows some of the same principles responsive approaches but implements them in a unique way.

Hybrid email still uses fluid tables and images

but, in contrast to responsive emails, those tables and images remain fluid by default. Instead of using media queries to trigger those fluid states on smaller screens, the hybrid approach favors Microsoft conditional comments to restrain fluid tables on larger screens. Sound confusing? It's not as bad as it seems.

While there are variations to the approach, hybrid emails work on the following principles:

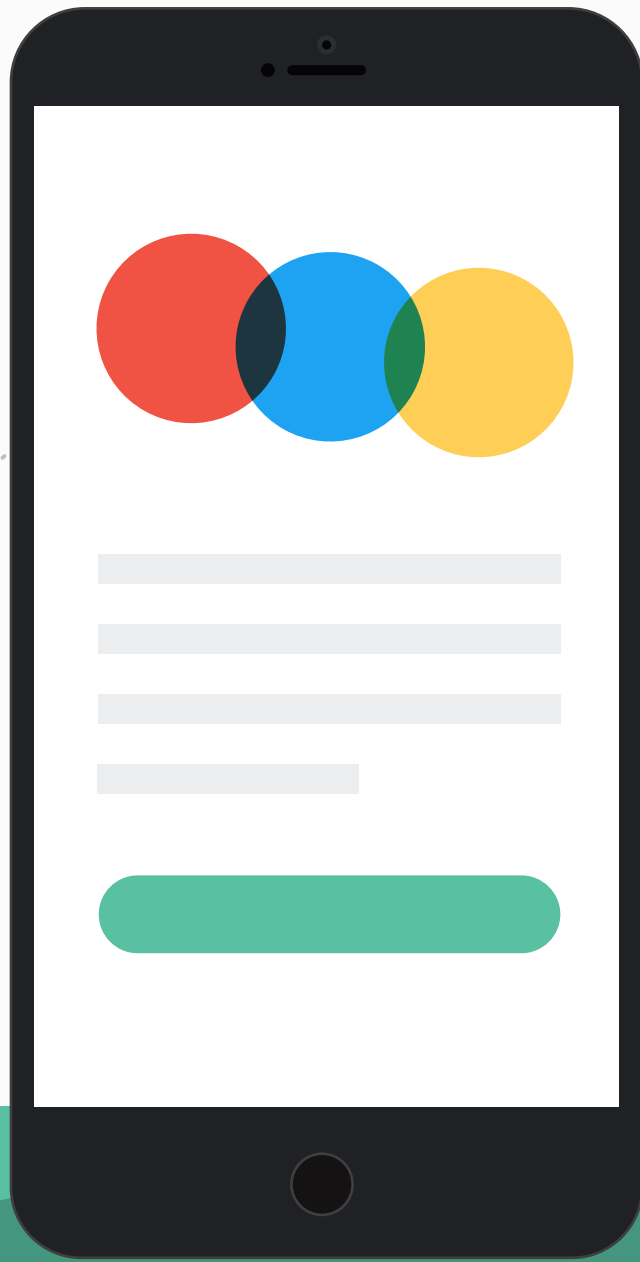
- Fluid tables and elements by default
- Max-width CSS to constrain widths on desktop widths
- MSO conditional comments to constrain widths in Outlook

Hybrid is a great approach since it supports virtually every email client. However, it can get a bit complicated when using complex layouts. While there are techniques for dealing with two, three, and four-column layouts, they are harder to implement and more fragile than the corresponding approaches used in responsive emails.

Which approach is right for you?

In order to determine which of these approaches is right for you, you need to understand your audience. Determine your percentage of mobile, desktop, and webmail opens and then make a decision—the higher the percentage of mobile opens, the more thought and in-depth strategy you need to put into place.

In addition, make sure you plan for the long term. Choosing a multi-screen strategy isn't simply tweaking the code of a single email, it's optimizing your entire email marketing framework, so make sure you plan thoroughly, and code, design, and test your new approaches to see what resonates best with your audience.



Discover your mobile audience

Use Litmus Email Analytics to see where your subscribers open.

[Try Litmus free](#)

[Already have an account? Run an Email Analytics campaign.](#)

Use clear, bulletproof CTAs

We've already discussed the importance of using CTA language that entices your subscribers to take action. But, what about designing successful CTAs?

Ensure they're touch-friendly

As mobile takes over as the most popular method for consuming email, the physical size of CTAs make an even greater impact on the subscriber experience. While clicking a link with your mouse on a desktop provides very precise control, touching a CTA with your thumb can become frustrating when targets are too small or too close together on mobile devices.

Generally, you'll want to keep CTAs big enough for even large thumbs to easily tap. We recommend a minimum of 44 x 44px.

Use lots of white space

In addition to making CTAs finger-friendly, you should also provide generous spacing around and between clickable elements. Including white space around CTAs prevents users from getting frustrated when they attempt to tap one link and accidentally tap one next to it.

Think about placement + contrast

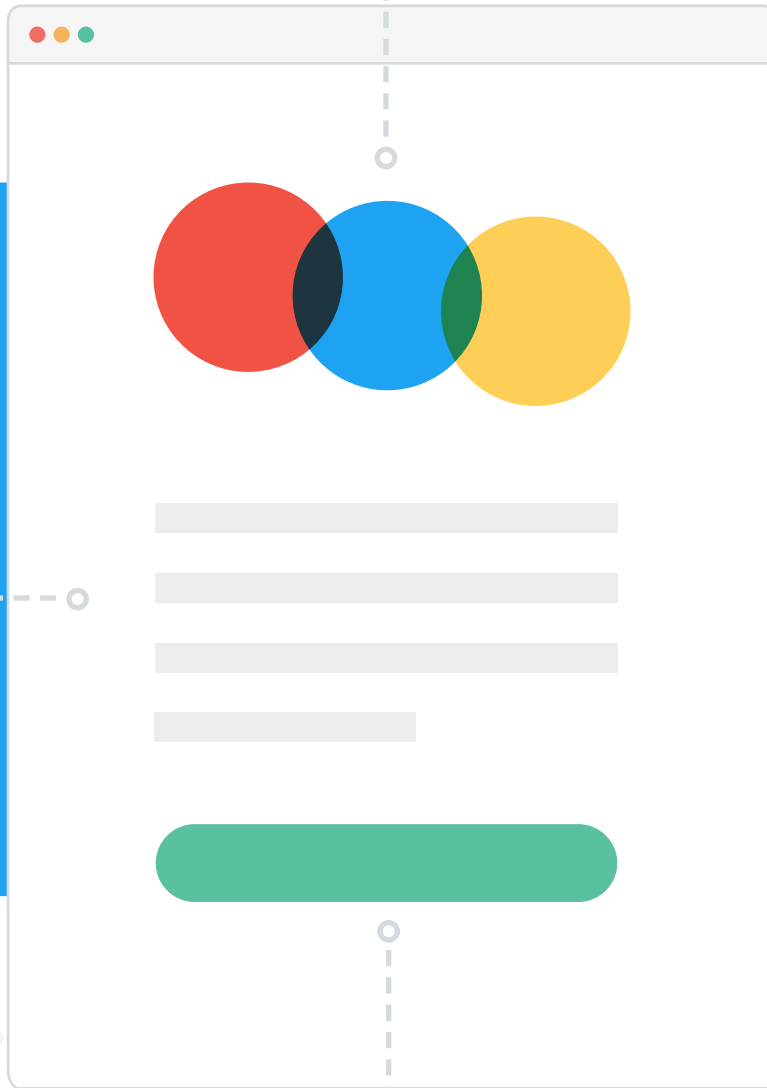
Placing your most important CTA early in your email is a good way to ensure it's seen quickly. While some might argue that the "fold" no longer exists, keeping your main CTA toward the top of your campaign accounts for readers that are not likely to scroll.

It's also important to think about how your CTA will contrast with surrounding content. Color is a great way to add contrast, and vibrant colors are generally best at drawing the eye to the CTA. Even if you use muted colors for your calls-to-action, they should contrast with any background colors, images beneath the CTA, or surrounding text.

Think about placement + contrast

Use lots of white space

Ensure CTAs are touch-friendly



Determine which types of images to use

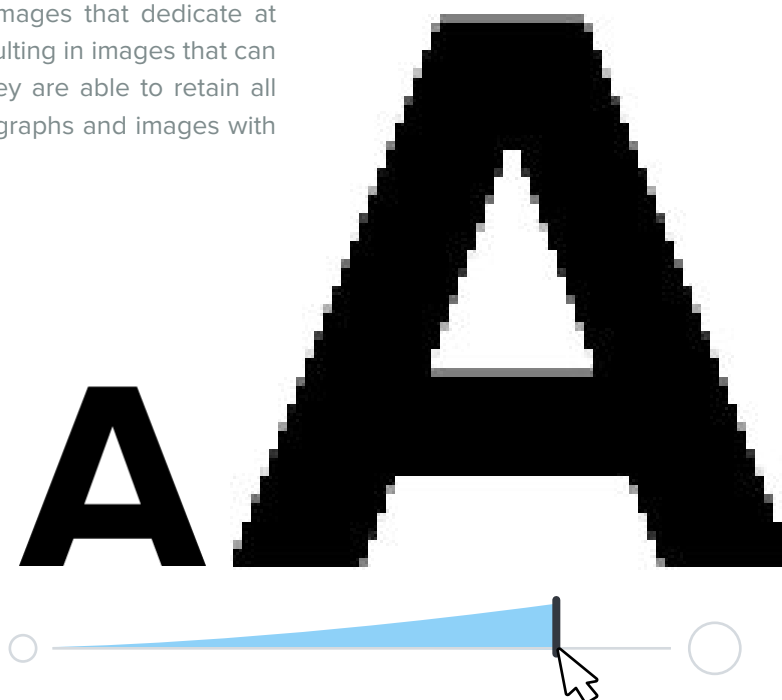
With so many image file formats available—JPEG, PNG, and GIF are some of the most popular—how do you determine which is right image format for your email? Each format produces variances in file size, compression, and quality. To make things more confusing, support for specific file types can also vary between email clients.

JPEG (JPG)

[The Web Style Guide](#) describes JPEG images (short for Joint Photographic Experts Group) as “full-color images that dedicate at least 24 bits of memory to each pixel, resulting in images that can incorporate 16.8 million colors.” Since they are able to retain all color information, they’re great for photographs and images with lots of colors.

However, JPEGs are also “lossy,” meaning they retain all color information, but compress file size by selectively discarding data—and that compression can result in a loss of quality. While changing the degree of compression helps make photographs more realistic, it can make images containing text look blurry.

In addition, JPEGs cannot be animated, and they do not support transparency.



GIF

GIF stands for Graphics Interchange Format. [Sitepoint](#) describes a GIF as “one of the file formats used to display indexed-color graphics and images in HTML documents on the web.” This means that a GIF will only display a maximum of 256 colors; as a result, GIFs are great for images with simple illustrations and blocks of colors, like logos and icons, but probably not the best option for photographs.

One of the major benefits of GIFs is that they preserve transparency, which means that you can use image-editing software to select colors in a GIF image’s color palette to become transparent. This allows you to put a GIF over a colored background, or even a photograph, and you won’t see a border around the image. Another benefit of using GIFs is that they [support animation](#), which can help add interactivity to your email. You can use animated GIFs to showcase products and entice your readers to click-through to the landing page.

PNG

PNGs, Portable Network Graphics, offer a wide range of attractive features. [1stWebDesigner](#) defines a few of their benefits: “a full range of color depths, support for sophisticated image transparency, better interlacing, and automatic corrections for display monitor gamma.”

There are two types of PNG formats: PNG-8 and PNG-24. The PNG-8 format is similar to GIFs in the fact that they are saved with a maximum of 256 colors. The PNG-24 format is able to display millions of colors, but also comes with a larger file size. The rule of thumb here is to choose whichever format is an appropriate balance of color and file size for your particular needs.

PNGs can also produce background images [without jagged edges](#). While they can be used for photographs, PNGs typically have larger file sizes than JPEGs since they use “lossless” compression.

A negative of the PNG format is that they are not supported by all web browsers or early versions of Lotus Notes.

Which image format should you use?

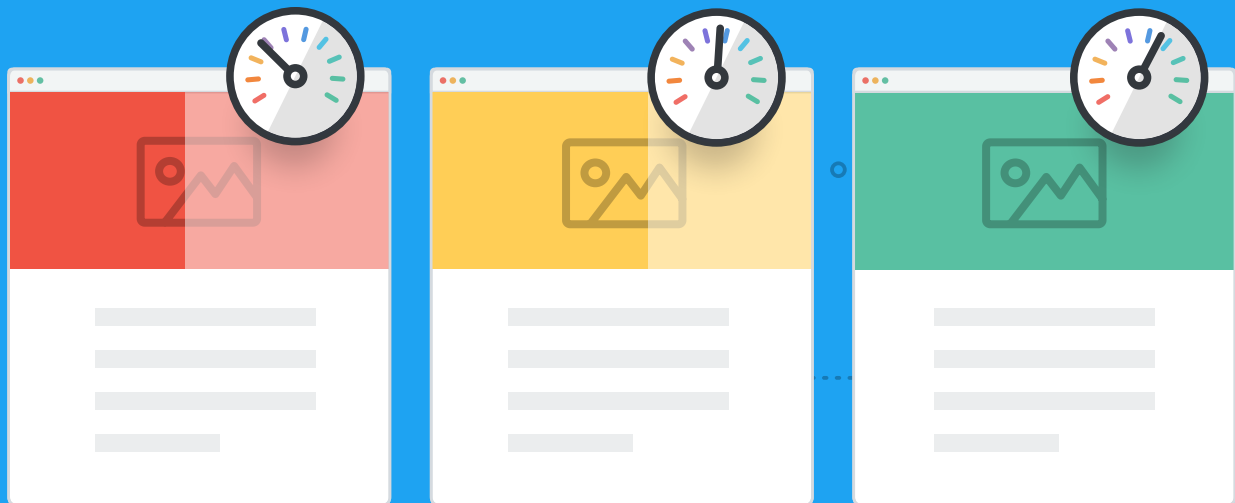
Unfortunately, there is no one-size-fits-all answer. You need to determine which file format is most appropriate for the content of your image. If you’re looking to include animation, the GIF format is the obvious choice. Need your photographs to retain their detail and color? Go with a JPEG.

The best tools for judging which image format looks best are your eyes, and using a tool like Litmus to preview how your emails (and images!) display across a wide variety of email clients.

Optimize for Retina displays

Apart from the onslaught of screen sizes, the mobile revolution introduces another interesting challenge for email designers: high-DPI displays. These displays, often referred to as [Retina displays](#) (a term coined by Apple), have the power to both enhance any email campaign—or give your subscribers a less-than-stellar email experience. If your audience is using email clients that typically run on devices with Retina displays, like the iPhone and iPad, you should ensure your images are displaying clearly.

The trick to optimizing your images for Retina displays is to create your images at twice the size you plan to display them. For example, if you’d like an image to display at 300x200px, then create it at 600x400px, and define the size of the image as the intended 300x200px within your email. However, keep in mind that since you’re using bigger file sizes, it could result in longer load times in the inbox.



Test your image load speed

Use Litmus Checklist to see how long it takes your images to load.

[Try Litmus free](#)

[Already have an account? Run a Checklist.](#)

Don't forget about plain text

Plain text emails are just that—plain text. They are the email equivalent to a letter written on a typewriter—no images, no pretty fonts, no CTA buttons. While they may not be nearly as attractive as HTML-based emails, they can play a significant role in a well-rounded email marketing strategy.

And, with the launch of the Apple Watch—which displays the text version of an email if any remote or linked images are detected—plain text messages can play an even bigger role.

Even when you're sending out an HTML email, a plain text alternative is crucial. **Multi-part MIME** (Multi-purpose Internet Mail Extensions) bundles together a plain text version of your email along with the HTML version of your email. Unless you're sending out a solely plain text email, multi-part MIME should be part of every email campaign. Some great reasons why sending in multi-part MIME is a necessity:

Spam filters like to see a plain text alternative

HTML-only emails are a red flag for spam filters. A lazy spammer wouldn't take time to create a plain text alternative, so make sure that you do!

Some email clients & apps can't handle HTML

Some email clients like the Apple Watch's do not support or display HTML properly. In these instances, the plain text email will render instead.

Accessibility and screen readers

Since a variety of email clients give their users the option to only receive the plain text version of an email, it's important to send in multi-part MIME format. Otherwise, they may not receive your email at all.

Tips for optimizing your plain text version

Most ESPs will send in multi-part MIME automatically, or walk you through setting this up as an option. Many will also offer to create a plain text version based on the text in your HTML for you. While using these auto-generated versions can save you time, be sure to edit them if need be. There may be added spaces between paragraphs, corrupted characters (ASCII characters such as trademark, copyright, and smart quotes, etc. aren't supported), and links and text that are unnecessary. In image-heavy campaigns, critical text may also be lost, since auto-generated versions can't "read" text saved as an image.

Here are some tips for optimizing your plain text version:

Clear headlines

While you can't use larger text or different colors to separate headlines from the content, there are a few strategies that do work, like using all caps or symbols to separate sections.

Bulleted lists

Using lists is another great tactic for creating hierarchy in a plain text email. While bullet points aren't supported, you can use asterisks, dashes, or plus signs instead.

White space

An important element for scannability is white space—which involves including line breaks between different content sections, headlines, and CTAs. It creates a clear eye path for the subscriber, as well as allows links to be easily clickable (and touch-friendly on mobile devices).

Defined CTAs

While it's a bit more difficult to make CTAs stand out without the help of colorful HTML-based buttons, there are other tactics you can use in plain text emails, such as using two angle brackets (>>), to draw attention to the CTA.

Optimize for image blocking

Many email clients automatically block images for subscribers, leading to campaigns that lack the ability to immediately communicate and make an impact. They may even look broken or blank, making it extremely important to optimize your emails for images-off viewing.

As with everything email-related, there aren't standard settings across the board for image blocking. Below, we've outlined default image blocking settings for the most popular desktop, webmail, and mobile email programs.

Desktop

Email Client	Images Displayed By Default	Renders ALT Text	Renders Styled ALT Text
Apple Mail	✓	✓*	✓*
Lotus Notes 8.5	✗	✓	✗
Outlook 2000-2003	✗	✓	✗
Outlook 2007/2010/2013/2016	✗	✓	✗
Outlook 2011 (for Mac)	✗	✓	✓
Thunderbird	✓	✓*	✓*

* Images are enabled by default, but were manually disabled for testing purposes.

Webmail

Email Client	Images Displayed By Default	Renders ALT Text	Renders Styled ALT Text
AOL Mail (Chrome)	✘	✔	✔
AOL Mail (Firefox)	✘	✔	✔
AOL Mail (IE)	✘	✔	✘
Gmail (Chrome)	✔	✔ *	✔ *
Gmail (Firefox)	✔	✔ *	✔ *
Gmail (IE)	✔	✔ *	✘
GMX (Chrome)	✔	✘ **	✘ **
Outlook.com (Chrome)	Sometimes	✔	✔
Outlook.com (Firefox)	Sometimes	✔	✔
Outlook.com (IE)	Sometimes	✔	✘
Web.de (Chrome)	✔	✘ **	✘ **
Yahoo! Mail (Chrome)	✘	✔	✔
Yahoo! Mail (Firefox)	✘	✔	✔
Yahoo! Mail (IE)	✘	✔	✘
Freenet.de (Chrome)	✔	✔ *	✔ *
Mail.ru (Chrome)	✔	✔ *	✔ *

* Images are enabled by default, but were manually disabled for testing purposes.

** Images are enabled by default and cannot be disabled. However in both GMX and Web.De, all messages in the Spam folder have images disabled. And, when this is the case, images are collapsed and ALT text is not supported.

Mobile

Email Client	Images Displayed By Default	Renders ALT Text	Renders Styled ALT Text
Android 4.x (Native email client)			
AOL Alto Mail app			
AOL Mail (Android browser)			
AOL Mail (iPhone browser)			
BlackBerry OS7			
BlackBerry Z10			
Gmail (Android browser)		 *	 *
Gmail (iPhone browser)		 *	 *
Gmail app (Android)		 *	 *
Gmail app (iOS)		 *	 *
iOS 10 (Native email client)		 *	 *
Mailbox (iOS)		 **	 **
Outlook.com (Android browser)	Sometimes		
Outlook.com (iPhone browser)	Sometimes		
Windows Mobile 7.5			
Windows Mobile 8			

Email Client	Images Displayed By Default	Renders ALT Text	Renders Styled ALT Text
Yahoo! app (Android)	✘	✘	✘
Yahoo! app (iOS)	✘	✔	✔
Yahoo! Mail (Android browser)	✘	Sort of	Sort of
Yahoo! Mail (iPhone browser)	✔	✘ **	✘ **

* Images are enabled by default, but were manually disabled for testing purposes.

** Images are enabled by default and cannot be disabled.

Plan for image blocking

Due to the prevalence of image blocking, email professionals must consider how their designs function with images turned both on and off. Plan for image blocking with these strategies:

Balance of imagery + text

Emails that are one big image don't take into consideration file sizes for mobile recipients, accessibility for the visually impaired, or the HTML-to-text ratio that some spam filters look to maintain. In addition, they don't leave much room for images-off optimization.

We recommend ditching emails that are entirely image-based and opting for a balance of live text and imagery instead. It ensures that your emails are accessible, eliminates the HTML-to-text ratio spam issue, and allows messages to be legible and easy to interact with under any circumstance.

ALT text + styled ALT text

ALT text, or alternative text, is a text description of the image that displays if the image itself does not render—and it's one of the best ways to communicate when you can't rely on images to do it for you. Since many email clients support ALT text, it's a fantastic way to provide some context for subscribers when images are disabled. As an added benefit, ALT text makes your emails more accessible to visually impaired subscribers who use screen readers.

Luckily, adding ALT text is extremely easy—all it takes is adding an attribute to the image tag:

```

```

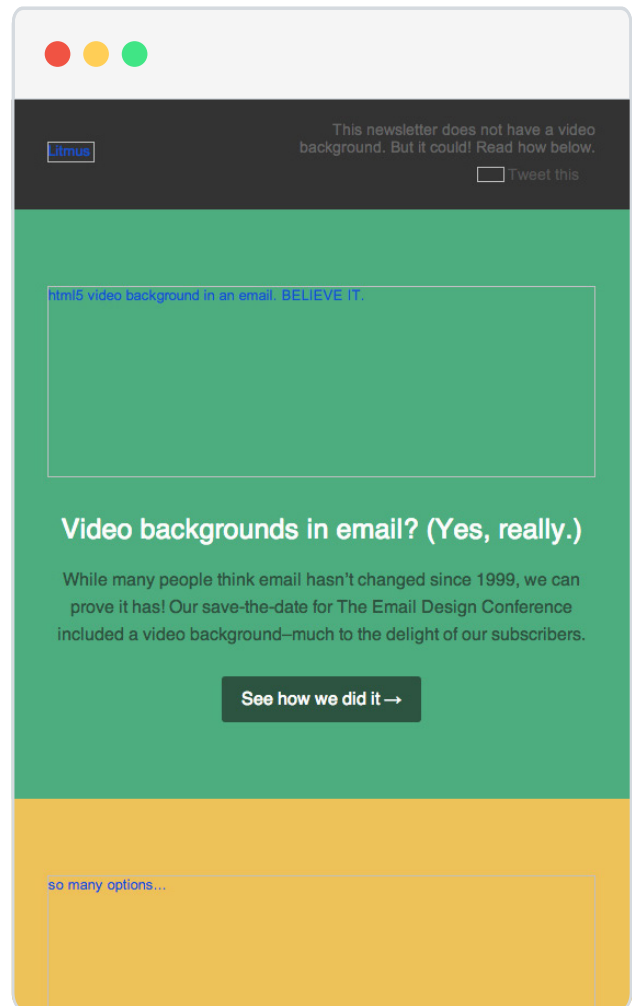
You can even take your ALT text to the next level by adding a bit of inline CSS to change the font, color, size, style, and weight. This technique, known as **styled ALT text**, is a great option for maintaining branding and adding some fun to your images-off view.

```

```

Bulletproof buttons

CTAs should be viewable even when images are disabled. There's no special treatment for image-based buttons—they are blocked like any other image, preventing users from taking action and converting from your email. While text links are an option, **bulletproof buttons** allow you to maintain brand guidelines and visual weight on important CTAs.



Bulletproof buttons consist of live text combined with a background color, styled to look like a button. While there are several techniques for creating this type of button (Campaign Monitor's [free bulletproof button tool](#) is a great option) we prefer to use simple HTML and inline styles, which holds up well across most email clients.

```
<table border="0" cellspacing="0" cellpadding="0" width="80%">
  <tr>
    <td bgcolor="#0b534a" style="padding:12px 18px 12px 18px;
      -webkit-border-radius:3px; border-radius:3px" align="center">
      <a href="https://litmus.com" target="_blank" style="font-size:
        16px; font-family: Helvetica, Arial, sans-serif; font-weight:
        normal; color:#ffffff; text-decoration:none;">Visit Litmus</a>
    </td>
  </tr>
</table>
```

Background colors

Adding background colors throughout your email, particularly in table cells containing images, creates visual hierarchy and, to an extent, allows your design to be seen in an images-off environment.

While there are several ways to code background colors, we recommend using the HTML bgcolor attribute with a 6-digit HEX code:

```
<table border="0" cellpadding="0" cellspacing="0" width="600"
  bgcolor="#ffffff">

  <td bgcolor="#ffffff">
```



REACH THE INBOX

Even carefully crafted copy and brilliant design can't perform if it doesn't reach the inbox. Here are some tips for creating campaigns that get delivered.

Only send to those that have opted-in

Your [subscribers view any irrelevant and unwanted email as spam](#). If they haven't specifically opted in to receive your communications, chances are they aren't interested in what you're sending. They could mark your email as spam, or block you from sending them any future mailings.

In addition, since many inbox providers take engagement into account for deliverability, if your subscribers haven't specifically opted in to receive your communications—and aren't opening or interacting with your campaigns—then your sender reputation may be negatively affected. This is why permission is so crucial.

Send relevant content

If you're sending targeted, relevant communications to opted-in subscribers then you're already off to a great start. When it comes to deliverability, inbox providers like Gmail take engagement very seriously, so sending campaigns that your subscribers are interested in is crucial.

If your email generates positive interactions and engagement it can boost your sender reputation. That means your standard success metrics, like opens and clicks, still matter. On the flip side, if your emails are consistently deleted without being opened or they are marked as spam, that doesn't look good for you as a marketer or for your deliverability.

Adhere to list hygiene best practices

Another crucial component of encouraging a highly engaged list is ensuring that your list is comprised of valid email addresses. If you're sending to invalid email addresses, chances are they will [hard bounce](#).

Hard bounces occur when the receiving server is either unable to deliver or rejects the message. It can also occur when there is no mail server at that address, or the domain doesn't exist at all. This can be caused by anything from typos to deleted user accounts.

If you're sending to addresses that hard bounce because they don't exist, then there is no opportunity for someone to engage or interact with your campaign.

While a few hard bounces shouldn't affect deliverability, too many will eventually make it difficult to reach the inbox. It could be a red flag to ISPs about your permission practices. For this reason, you or your ESP should be evaluating these bounce codes and removing invalid emails from your lists before your next campaign.

So, how can you ensure you're only sending to valid email addresses?

First, look at your [email acquisition methods](#). Here are some options for preventing invalid email addresses during that process:

- 1 Use an [in-form verification tool](#) to prevent email addresses with typos.
- 2 Use double-entry confirmation, which requires potential subscribers to type in their email address twice. While this doesn't confirm the validity of an email, it reduces typos by confirming that the first email address provided matches the second.
- 3 Use a double [opt-in subscription process](#). Under this process, a new email address is only added to your mailing address after the email address owner clicks a confirmation link in an opt-in confirmation request email that's sent to them after they sign up via a form or checkbox.

Many ESPs have built-in functionality to automate the removal of hard bounces. Look into your ESPs policies and settings to verify that yours is doing this behind the scenes. If not, you need to take matters into your own hands.

What about your current list? Be sure to remove all hard bounces from your list as soon as they occur. For soft bounces, which happen when an email address is valid but for whatever reason can't receive your message at the time of the send, consider removing them from your list if they continue to bounce over a period of time.

Properly handle inactive subscribers

Inactive subscribers are email addresses that have not opened or clicked on campaigns sent from a brand over a defined period of time. Because they are not engaging with your campaigns, these subscribers aren't contributing to your goals and can even impact your deliverability.

[Re-engagement campaigns](#) are a great way to get inactive subscribers opening and clicking again. If those efforts fail, then a re-permission email series should be sent. Those who do not re-confirm their interest in receiving your emails should be removed from your list.

Another possible side effect of sending to unengaged users is spam traps. Spam traps look like real email addresses, but don't belong to—or no longer belong to—a real person, nor are they used for any kind of communication. Sending to them can cause you to be blocked or end up on a blacklist. Fortunately, there are ways to [keep spam traps off your list](#).

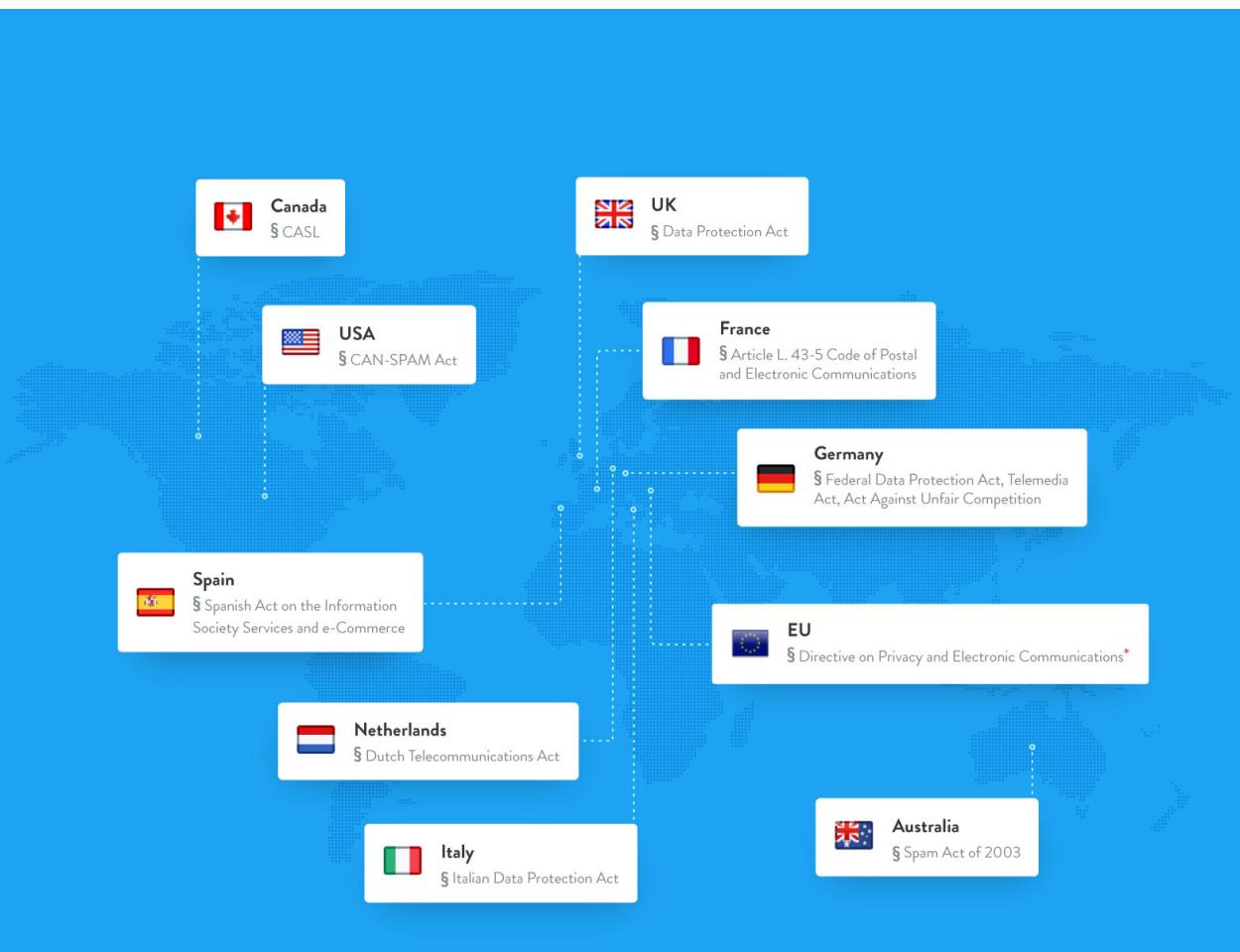
Follow all applicable spam laws

When it comes to email regulations, the location of your subscribers will determine the rules you need to comply with, and that could mean familiarizing yourself with [international spam laws](#).

It doesn't matter where your company is based or where you're located when hitting send—but rather where your subscribers are when they receive your emails. Are you an American company that targets people in the US, Canada, and Europe? You not only have to comply with US regulations, but Canadian and European laws as well.

Not complying with international email laws may not only damage your sender reputation, but it could cost you actual money, too.

Determine where your subscribers are based and what regulations are in place in those countries. Local associations are a great resource for learning more about regional requirements.



* Beginning May 2018, the General Data Protection Regulation (GDPR), the European Union's new privacy law, will come into effect.

Evaluate your reputation before you send

Are any of your IP addresses or domain names on any blacklists? If so, your well-thought out campaign may not reach the inbox at all. Get a reputation check before you send. While each ISP maintains its own sending reputation about you, many of them also use trusted blacklisting services, and other extended reputation networks in their filtering algorithms.

Ensure email authentication records are in place

If you've ever looked closely at a phishing email, you'll notice that these messages are sent from their own server, yet claim to come from somewhere else (likely a friend of yours or a company you trust).

Authentication technologies, such as SPF and DKIM, attempt to minimize this from happening by giving recipient mail servers a record of identification to check, to ensure the sender is legitimate. Emails that fail authentication checks may be blocked or put through additional filters, potentially preventing them from reaching the inbox.

Authentication is crucial for your deliverability and sender reputation.

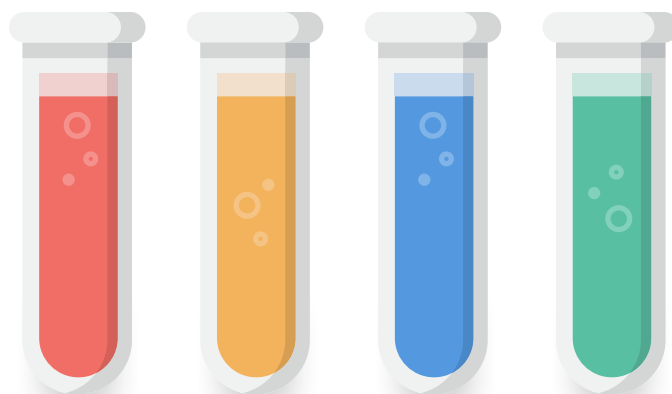
Be sure to use a private domain that you control—for example, we send from @email.litmus.com—when sending through your ESP. It'll help you establish a consistent reputation and brand, while appearing more trustworthy to subscribers who take a look at where your email is coming from. Additionally, [setting up a DMARC](#) policy enables you to take control over your domain and how receivers treat un-authenticated email streams.

Identify deliverability issues before you send

Get your email scanned by every major spam filter, identify issues that might keep you from the inbox, and get actionable advice for how to fix them.

[Try Litmus free](#)

[Already have an account? Run a Spam test.](#)




TEST, TEST, TEST... AND TEST SOME MORE

You've spent time clearly defining your goals and optimizing everything from your content to your design. Now, it's time to test your campaign to make sure everything is working as intended.


While every brand will have their own detailed list of checks before sending, here are some crucial ones to keep in mind:

 **Check your lists**


Ensure you've selected the correct list(s) of opted-in subscribers, and that anyone who has previously opted out from your communications has been removed.

 **Verify that you included contact information + a working unsubscribe link**

Verify that you've included company contact information, like a physical address, and an option to unsubscribe. These are both required by many spam laws.

 **Confirm that your inbox fields are updated—and optimized**

Verify your from name, reply-to address, subject line, and preview text are optimized and encourage recipients to open.

 **Check dynamic content and personalization**

If applicable, verify that your dynamic content and personalization are working. Is the correct content displaying? Are fallbacks in place?

 **Spell check**

Verify that everything is spelled correctly. Sometimes it's best to have another set of eyes—or two—read through your email to catch any spelling or grammar errors.

 **Check your links**

Ensure that your links are going to the right web and landing pages, and that they are being tracked properly.

Continued on next page

Check your images

Ensure that images are displaying as intended, include ALT text, and aren't taking too long to load.

Do a rendering check

Preview your email across mobile, desktop, and webmail apps to verify that everything looks great, and your CTAs are easy to interact with in all environments.

Verify the plain text version

For accessibility and deliverability purposes, ensure you're including a plain text version, and that it's optimized.

Run a spam filter check

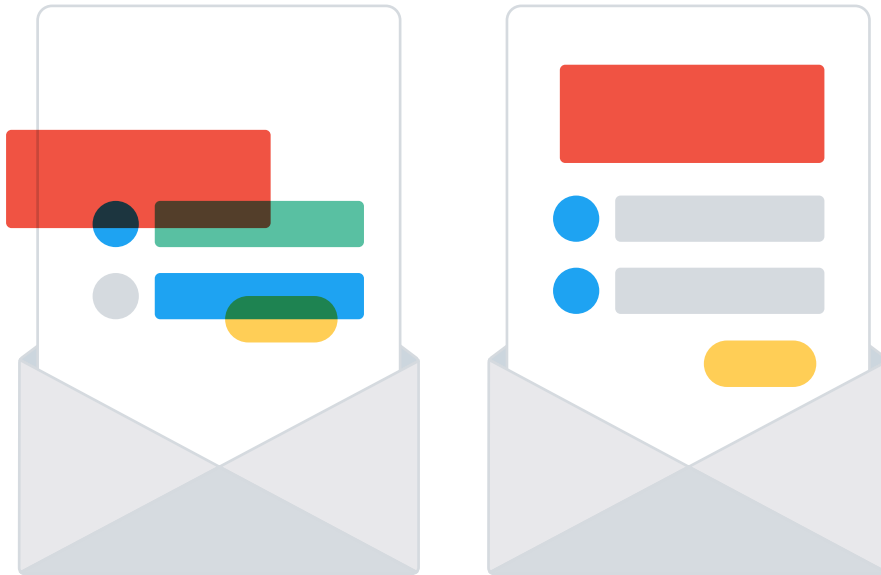
Get a reputation check of your IP addresses and domain names, and ensure authentication records are in place.

Take the fear out of sending

With Litmus Checklist, you can preview your email in all popular email clients and devices, validate that your links, images, and tracking work properly, test your email's load time, and more—all before pressing send.

[Try Litmus free](#)

[Already have an account? Run a Checklist.](#)



SOLUTIONS FOR COMMON RENDERING PROBLEMS

Between strange gaps, images not displaying as intended, and countless other rendering issues, when it comes to email, there is a lot that can go wrong. Here are some solutions for common issues.

Blue links on iOS

Are your phone numbers, addresses, dates, or even seemingly random words like “tonight” being converted into underlined blue links in emails viewed on an iPhone or iPad? (Or are you struggling with blue links in Gmail? [We’ve got a fix for that as well.](#)) These bits of information trigger app-driven events, such as making a call, launching a map, or creating a calendar event.

This well-intentioned behavior from Apple can be super handy in plain-text or personal emails, but can be a nuisance in HTML emails. Blue links can lead to reduced legibility (think: blue links on a blue background), and can also conflict with your brand’s design.

Solution 1: Wrap offending links in styled spans

By setting your desired link styles in classes in the `<head>` of your email and adding your new class to span tags surrounding your target, you can easily customize how your links display.

Here’s the code you put in the `<head>` :

```
.appleLinksBlack a {  
  color:#000000 !important; text-decoration: none;  
}
```

Then, wrap the offending blue text in `` tags with the appropriate class throughout the email:

```
<span class="appleLinksBlack">866-787-7030</span>
```

The text will now display as intended, blending into the overall design better than before. It’s important to note, however, that each of the formerly blue links are still active. Tapping these links will still trigger their associated app-based events.

Solution 2: Add CSS into the `<style>` tag above—and inside—your media query

The folks over at [Bring Dialog](#) also have a great solution for disabling blue links. Their solution involves using a bit of CSS in your `<style>` tag above your @media query.

```
a[x-apple-data-detectors] {  
  color: inherit !important;  
  text-decoration: none !important;  
  font-size: inherit !important;  
  font-family: inherit !important;  
  font-weight: inherit !important;  
  line-height: inherit !important;  
}
```

Not only does this solution solve the problem of blue links, but it also helps make your code more readable since it’s no longer littered with extra tags and classes.

Media queries not working

Responsive emails rely on media queries—or @media rules in code—to work properly. Media queries are a special set of CSS styles that act like conditional statements or dynamic rules. Carefully planned, they can help make emails more usable on different screen sizes.

Media queries detect features, such as the screen size, of a device and then “turn on” different sets of rules based on that screen size. These can be very simple to implement or quite complex, depending on what you’d like to accomplish.

Media queries are very powerful but they don’t work everywhere, unfortunately. The most notable lack of support comes from Outlook. Many Outlook versions, including Outlook 2003, 2007, 2010, and 2013, will simply ignore any @media rules in your email’s code.

Solution 1: **Build a solid mobile-friendly foundation**

This varying degree of support is why we recommend building a solid mobile-friendly foundation for your email using HTML and inline CSS, with media queries added in to progressively enhance the design. Unless you know that the vast majority of your subscribers are using a client that supports them, don’t rely on CSS in a media query for vital styles that need to be seen everywhere.

Solution 2: **Use the hybrid coding approach**

Using the [hybrid coding approach](#) is another solution for lack of media query support. Hybrid coding still uses fluid tables and images but, in contrast to responsive emails, those tables and images are fluid by default. Instead of using media queries to trigger those fluid states on smaller screens, hybrid coding favors Microsoft conditional comments to restrain fluid tables on larger screens.

Identify issues in your code

Use Code Analysis to identify unsupported HTML/CSS in your code. Spot issues quickly and instantly preview fixes in dozens of email clients.

[Try Litmus free](#)

[Already have an account? Start a Builder project.](#)

Images not displaying as intended

There are a variety of reasons why images might not display as you'd expect.

Animated GIFs not working

Is your [animated GIF](#) not animating in more recent versions of Outlook? That's because Outlook versions 2007 and newer will only show the first frame of the animation.

Windows Phone 7 also lacks support for animated GIFs. Even with these missing clients, though, support for animated GIFs is better than support for most CSS.

Solution

Include vital information—perhaps a CTA, offer, or headline—in the first frame of the GIF. Often times this simply involves making what would otherwise be the final frame of your animation into the first frame of your animation.

Gaps under images

In many webmail clients you may notice the appearance of gaps underneath images. While seemingly minor, it may alter your carefully thought-out designs, especially when images are sliced up and need to align with one another. Luckily, there's a simple solution.

Solution

Adding inline CSS to each of the affected images to adjust how they are displayed will solve the issue.

```

```

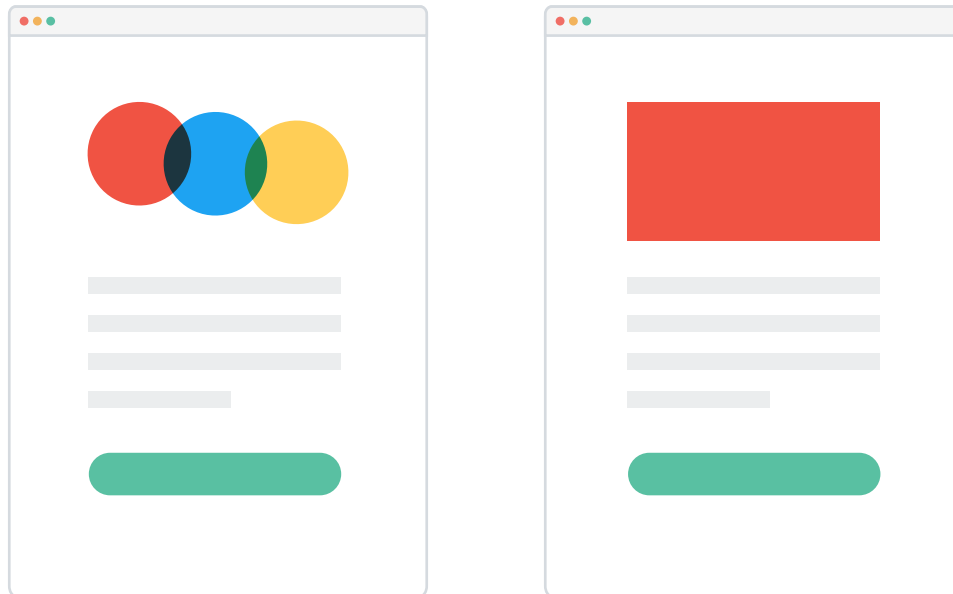
Background images not displaying

Using text over a background image—rather than an image with text included as part of the image—is a great way to accommodate image-blocking email clients. However, many clients (including Outlook 2007+) don't support HTML background images. Luckily, there are some solutions and workarounds.

Solution 1:

Use a background color as a backup

We recommend using a background color as a backup for when background images won't display. Be sure that your text is still as legible on the background color as it was on the background image.



Solution 2:

Use Campaign Monitor's bulletproof background images tool

While Outlook doesn't support HTML background images, they do support background images using Microsoft's proprietary markup language, VML. Coding VML and integrating it with HTML and CSS is complicated. Fortunately, our friends at Campaign Monitor have a [free tool](#) that makes generating code and using background images in Outlook much easier.

Outlook issues

Microsoft Outlook is often cited as one of the most frustrating email clients among developers and designers. These frustrations mostly stem from the fact that, starting with Outlook 2007, Microsoft swapped out Internet Explorer in favor of Microsoft Word for Outlook's HTML rendering capabilities.

With this change came a decrease in the number of HTML tags and CSS properties that were supported, including:

- No support for CSS float or position
- No support for text shadow
- No support for CSS background images in divs and table cells
- Poor support for padding and margin
- Poor support for CSS width and height
- Problems with nested elements background colors

Solution 1: Use table-based layouts

Due to its lack of support for CSS properties, we recommend using tables when optimizing your emails for later versions of Outlook. HTML tables are supported by every major email client.

Instead of this...

```
<div>
  <p> <h1>, <h2>, <h3>, etc.
margin
float
```

Use this

```
<table>, <tr>, <td>
<td>
<td> or <span>
<td style="padding:;">
multiple table cells and
align
```

For example, instead of a div-based layout:

```
<div style="width:100%;
float:left;"> Lorem ipsum
blah blah</div>
```

Use table rows and cells instead:

```
<table cellpadding="0"
cellpadding="0"
border="0" width="100%"
align="left"><tr><td>
Lorem ipsum blah blah</td></
tr></table>
```

Solution 2: Use conditional formatting

With the myriad rendering issues that come with choosing to support Outlook, it is sometimes useful to target Outlook with specific styles. Fortunately, targeting various versions of Outlook is relatively easy using [conditional CSS](#).

```
<!--[if gt mso 11]>
  <style type="text/css">
    ... Specific Outlook
    Styles...
  </style>
<![endif]-->
```

Looking at the example above, you can see a conditional statement containing a style block for CSS to be used for Outlook. That conditional statement can be used to target Outlook in a variety of ways:

```
lt: less than a specific version.
gt: greater than a specific version.
lte: less than or equal to a specific version.
gte: greater than or equal to a specific version.
```

It's important to understand which versions you are targeting, too. Microsoft uses a simple numbering scheme:

- Outlook 2000 = 9
- Outlook 2002 = 10
- Outlook 2003 = 11
- Outlook 2007 = 12
- Outlook 2010 = 14
- Outlook 2013 = 15
- Outlook 2016 = 16

In addition to using conditional CSS, Outlook has a variety of [Microsoft-specific properties](#) which you can use to your advantage if you're running into any particularly nasty bugs.

Gmail issues

In the past, Gmail and its poor HTML and CSS support has been causing email marketers many headaches. In September 2016, however, things changed: Gmail rolled out a massive update to its rendering engine, now allowing email developers to take advantage of responsive email design, advanced font styling options, and improved support for CSS.

Rendering trouble with IMAP and POP accounts in Gmail

There is, however, one exception that email designers must be aware of: Google’s improved rendering engine does not apply to POP/IMAP accounts using the Gmail app. Typically these are accounts from users who use the Gmail interface to access their email, but their email itself exists through another email service (i.e. @yahoo.com, @outlook.com, @gmx.de, etc.). In this case, Gmail still relies on the old rendering engine and its lacking support of CSS and media queries. Users who use a Gmail address and G Suite will enjoy responsive design and advanced CSS support—users who use a non-Gmail address, on the other hand, will not.

The significant inconsistencies in rendering for Gmail and POP/IMAP accounts have been causing lots of confusion in the email world. To clear things up, here’s how rendering in a classic Gmail account compares to its IMAP or POP counterpart:

	Gmail	Gmail (POP/IMAP)
<style> support in head	✓	✗
Media query support	✓	✗
CSS selector support	✗	✗
classes	✓	✗
ids	✓	✗

For all Gmail accounts running on a POP or IMAP setting, Gmail’s rendering engine strips out embedded CSS classes and id’s in the `<head>` of an email.

Since many emails use those styles to determine layout and design choices, these emails can appear broken for users who set up their Gmail via POP or IMAP. If you’re seeing inconsistent rendering results in Gmail, this is likely the root of the cause.

Solution

To guarantee great rendering results in Gmail accounts running on POP or IMAP, ensure all styles are inline and that the email works well even without the style tag. “Inlining” styles moves the CSS and associated formatting instructions from the style block in the `<head>` of your email into the `<body>` of the HTML.

Although potentially more time-consuming, many designers hand-code styles directly on elements in an email. If you’re looking to save time and keep templates easier to maintain, CSS inliners might be a better option.

There are a handful of free tools that will automatically inline your CSS for you. After pasting your HTML, these tools do the heavy lifting for you. Some of these tools include:

- [PutsMail CSS Inliner](#)
- [MailChimp’s CSS Inliner](#)
- [Campaign Monitor’s CSS Inliner](#)
- [Zurb’s Responsive Email Inliner](#)
- [Premailer](#)

There’s also another option: [CSS Inlining in Litmus Builder](#). It’s the only inliner built specifically for email—and it’s free. With a simple toggle, embedded styles can be automatically inlined. There’s no need to copy and paste and no maintenance—it’s a faster workflow than any other inlining process.

CSS Inlining in Litmus Builder

Automatically inline your email's CSS with a simple toggle and style your emails faster and easier than ever.

Try Litmus free

[Already have an account? Start a Builder project.](#)

The screenshot displays the Litmus Builder interface. On the left, a code editor shows HTML and CSS code for an email template. On the right, a live preview of the email template is shown, featuring a colorful circular logo and the text 'INTRODUCING Litmus Community Templates'. Below the preview, there are three smaller email template thumbnails: 'COMING SOON', 'Here's what's new.', and 'Product Announcement'. The interface includes a menu bar with 'File', 'Edit', 'Find', and 'View', and a toolbar with icons for file operations, zoom, and device simulation. The code editor shows the following HTML and CSS:

```
1 <!--THIS EMAIL WAS BUILT USING LITMUS BUILDER
2 http://litmusbuilder.com-->
3 <!--QUESTIONS? TWEET US @LITMUSAPP-->
4 <!doctype html>
5 <html lang="en">
6 <head>
7 <title>Litmus</title>
8 <meta http-equiv="Content-Type" content="text/html; charset=utf-8" />
9 <meta name="viewport" content="width=device-width, initial-scale=1" />
10 <meta http-equiv="X-UA-Compatible" content="IE=edge" />
11 <style type="text/css" data-ignore-inlining>
12 /* BOILERPLATE STYLES */
13 #outlook a{padding:0;}
14 .ReadMsgBody{width:100%;} .ExternalClass{width:100%;}
15 .ExternalClass, .ExternalClass span, .ExternalClass td,
16 .ExternalClass div {line-height: 100%;}
17 body, table, td, a{-webkit-text-size-adjust:100%; -ms-text-size-adjust:100%;}
18 table, td{mso-table-lspace:0pt; mso-table-rspace:0pt;}
19 img {-ms-interpolation-mode:bicubic;}
20 body {height:100% !important; margin:0 !important; padding:0 !important; width:100% !important;}
21 img {border:0; height:auto; line-height:100%; outline:none; text-decoration:none;}
22
23 /* LINK STYLES */
24 a[x-apple-data-detectors] {
25 color: inherit !important;
26 text-decoration: none !important;
27 font-size: inherit !important;
```

Text + font issues

Enlarged text in iOS

Is your text scaling on the iPad and iPhone and breaking your layout? In an effort to make text more readable on smaller screens, iOS automatically resizes fonts under 13px. While it's a great feature, it can sometimes make things look a little funky.

Solution

Tiny text is hard to read on a desktop computer, never mind on a small mobile screen. To avoid illegible fonts, we recommend 14px as a minimum size for body copy and 22px for headlines. This sizing will also prevent iOS from scaling your text.

Fonts aren't displaying correctly

If you're using a custom brand font and don't see it appearing in your email, it's probably because:

- 1 The font you specified isn't installed on the computer used to view the email, or
- 2 You only specified fonts in the <head> of your email.

But, don't worry—there are solutions for both scenarios.

Solution

Use web-safe fonts

A simple solution is to use web-safe fonts like Arial, Verdana, Georgia, and Times New Roman. These fonts automatically come installed on most computers.

Use web fonts

[Web fonts](#) allow you to use custom fonts not installed on a subscriber's machine by including them in your CSS. At The Email Design Conference (now called [Litmus Live](#)), Paul Airy recommended linking to an external stylesheet to pull in fonts from a web fonts provider like Google Web Fonts.

```
<head>
  <link href="http://fonts.googleapis.com/css?family=Open+Sans"
    rel='stylesheet' type='text/css'>
</head>
```


After referencing the web fonts in your stylesheet, you can add the font to your font-family declaration:

```
<td style="color:#444444; font-family: 'Open Sans', Arial, sans-serif; font-size:16px; font-weight:normal; line-height:20px;">Some copy goes here.</td>
```

For email clients that support web fonts, your text will be displayed using the preferred typeface. And for all other email clients, the text will fall back to your alternative font (in the example above, it's Helvetica, Arial, or a generic sans serif).

Unfortunately, Outlook won't display the alternative fonts, falling back to Times New Roman instead. We can account for this behavior by using a CSS class to target the text and then rely on conditional comments to provide Outlook with an alternate font stack.

```
@media screen {
  @font-face {
    /*Insert font declarations here, such as font-family: Arial,
    sans-serif; */
  }
}

<td class="body-text" style="color:#444444; font-family: 'Open Sans', Arial, sans-serif; font-size:16px; font-weight:normal; line-height: 20px;">Some copy goes here.</td>
```

Now, instead of Times New Roman, our campaign will default to Arial or another installed sans serif.

More rendering issues?

The Litmus Community is the perfect place to ask code questions and join discussions related to everything email. It's free to join—and chock-full of email geeks.

[Join Community](#)



TEST AGAIN. THEN...SEND!

After you've identified and fixed all of your issues—broken links, weird rendering quirks, and the like—it's time to thoroughly test your email again. After all, fixing one mistake could lead to another mistake. Oh, the joys of email!

Keep in mind that every brand will have their own detailed list of checks before sending. With Litmus Custom Checklist, you can add your own specific rules to each Checklist you run. Once you've ran your email through the various quality assurance checks, it's time to send or schedule your campaign.

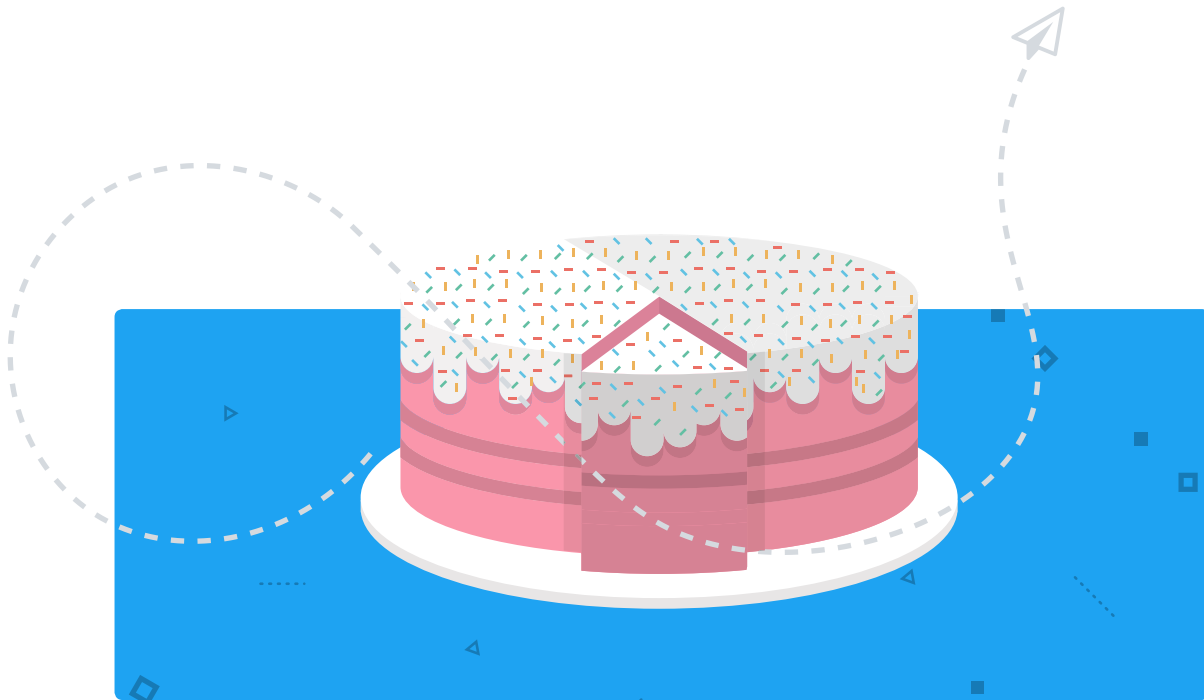
Customize Your Checklist

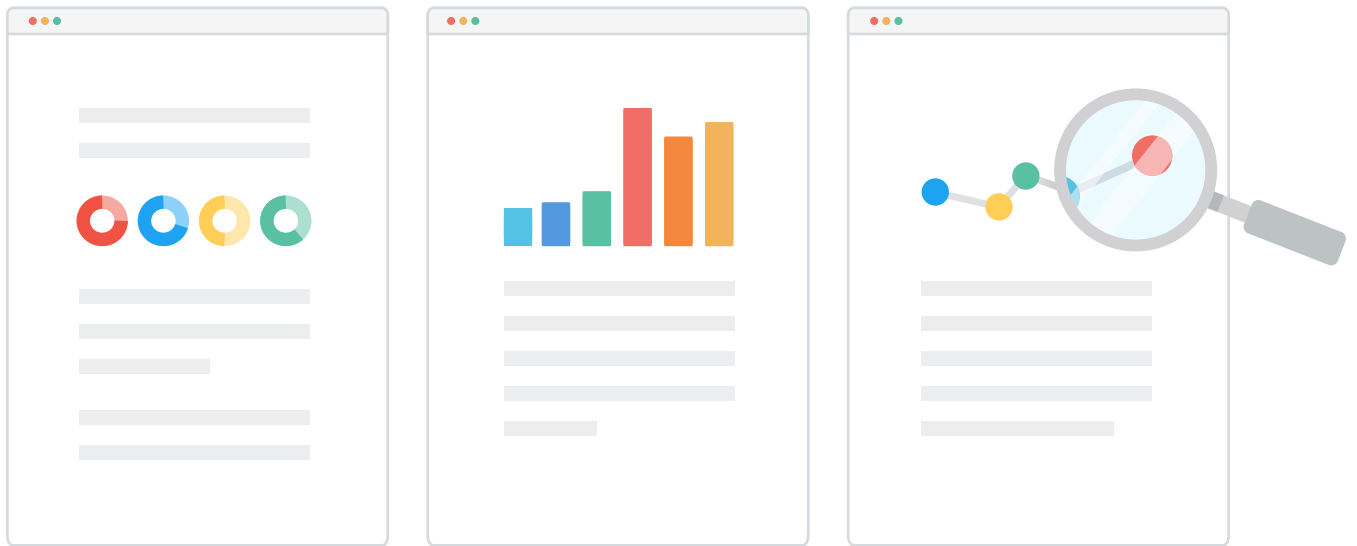
Add custom notes, team rules, and workflows relevant to your team and clients. Ensure accuracy for every email with a custom Litmus Checklist.

[Learn more](#)

Send!

Then, it's time to relax! Breathe a sigh of relief—you've just executed a well thought-out, well-written, and well-designed campaign.





ANALYZE RESULTS & INFORM FUTURE CAMPAIGNS

When you defined your goals for your latest email, you also determined the key metrics that measure whether those goals were accomplished or not. Now, it's time to analyze the results.

Conversion rate

If your goal was content downloads, you'll want to see how many of your subscribers downloaded your report. If your goal was upsells, look to measure the number of customers who upgraded their accounts. Those are the main goals of the campaign, and therefore the metrics that are most important. Compare the percentage of email recipients who completed the desired action—this is your [conversion rate](#).

The conversion rate directly correlates with the main goal(s) of the campaign, and is therefore the metric that is most important.

However, there are some other crucial metrics to look at, including open rate, click rate, and forward and print activity.

Open rate

Be sure to evaluate your open rate as part of an overall trendline, comparing this campaign's open rate with previous sends. Is it higher or lower than normal? A few factors could play a role in this, including:

- 1 Different tactics.** For example, did you ask a question in this subject line, whereas the majority of your past subject lines were statements?
- 2 Content.** Does the subject line include content that would be relevant to your subscribers?
- 3 Sending times.** Did you send your email at a [different day or time](#) that made your subscribers more likely to open?
- 4 Image blocking.** An open is only counted once images are downloaded. If your email is plain text or the majority of your subscribers aren't downloading images by default, then your open rate could be impacted.
- 5 Differences in audiences.** Are you sending to a different subset of your audience? Different audiences have different behaviors, which could impact open rates.
- 6 Deliverability.** If you see a dramatic decrease in open rates, it may be that your email didn't make it to the inbox. This is a good time to review your list hygiene, permission practices, and segmentation strategy.

Keep in mind that opens aren't everything. Not only are they tracked differently by many ESPs, they don't always accurately reflect the performance of a campaign. They are just one metric of many to keep in mind.

Click rate

Benchmark your click rate against previous sends. Is it higher or lower than normal? A few factors could play a role in this, including:

- 1 Placement of CTAs
- 2 Quantity of CTAs
- 3 Design of CTAs. A button may attract more clicks than a text link.
- 4 Email layout. Is it different than your typical sends? Is the CTA placed higher or lower in the layout?
- 5 Friction. Does the CTA use high commitment language (such as “buy now”) or ask for a lower commitment (like “shop now”)?
- 6 Readability. Does your message take into account where your subscribers are most likely to read your emails? CTAs and links may be harder to click on a small screen when opened on a mobile device.
- 7 Email content. Is it relevant to your subscribers?

Also, look at which CTAs received the most clicks. This can be a clear indicator of the content that most interests your subscribers, as well as the CTAs that resonate the most.

Duration of engagement data

There are lots of “engagement” metrics, including opens and clicks. “Read rate” or duration of engagement is another. Duration of engagement data looks at how long each subscriber kept your message open. In Litmus Email Analytics, reports are broken down into three categories: [Read, Skim Read, and Glanced/Deleted](#).

When it comes to interpreting duration of engagement data, we recommend tracking trends and changes in your data over time and comparing that to other factors, like open rates, click rates, and content and design changes. A long duration of engagement with an email doesn’t necessarily equate to a positive email experience for your subscribers. For example, they could be spending more time on your email because it’s hard to read, or they are searching for a CTA.

On the other hand, if the content of your emails has changed (i.e., you’re including more content, but fewer CTAs), it could mean your subscribers are spending more time on your email reading it, but clicking less. So, while your duration of engagement rates may go up, your click rates may be decreasing. It’s important to analyze trends and keep an eye on corresponding data points.

Geolocation data

Where in the world did your subscribers open your email? This information can help you make more informed [segmentation](#), design, send time, and copywriting decisions for future campaigns.

While we don't believe there is a "[perfect time](#)" to send an email, you can use geolocation data to optimize your send time. Whether your subscribers hail from Hong Kong or Holland, you need to make sure you're sending when they're awake and checking their email. As with everything email-related, be sure to test to see what works best for your audience.

Go beyond opens and clicks

See where your subscribers open and how long they read your email with Email Analytics. Track forwards and prints, compare engagement by device, and more.

[Try Litmus free](#)

[Already have an account? Run an Analytics campaign.](#)

Email client usage data

Use email client usage data to understand the different email apps and programs your audience uses to open email. This will help you create consistent, well-performing messages moving forward.

Do you have a high percentage of mobile opens? Consider using scalable, responsive, or hybrid email strategies. Are a lot of your subscribers using Outlook? Take caution when using background images or animated GIFs and plan appropriate fallbacks. This information can help guide both strategic and design decisions for your email program.

Forward and print activity

Use forward and print activity to note trends with email sharing and other evangelist behaviors. Consider rewarding frequent forwarders by creating a loyalty program. Print and forward activity can also help identify high-performing or [“viral” content](#) in your email program, providing another data point outside of opens and clicks. For example, a retailer may look at the print activity of an email that contains a coupon as a measure of success.

A/B test results

Did you run any A/B tests on this campaign, such as testing subject lines or comparing CTA button locations? Analyze the results of your test to see what works best for your audience. Use these discoveries to inform future campaigns.

Traffic and activity on your website

What did your subscribers do after they clicked through to your website? What pages are they visiting on your site? Do they spend time on a particular page, or do they bounce immediately? Are they purchasing anything?

[Adding web analytics tracking to the links in your email](#) can help you answer these questions—and more—for a full picture of your email campaign success.

Tracking Manager in Litmus Builder

Automatically add web analytics tracking to every campaign. Tracking your subscribers post-click has never been easier or quicker.

[Try Litmus free](#)

[Already have an account? Add post-click tracking.](#)

Unsubscribe rate

Compare your unsubscribe rate to previous campaigns. Is it higher or lower than normal? Increased un-subscribes can indicate that your emails aren't relevant to the audience you're targeting, and that it may be time to review your segmentation strategy. You can also use unsubscribe data to make inferences about what type of content your subscribers are not interested in to avoid in future campaigns.

Bounce rate

Your bounce rate indicates the percentage of your emails that were not successfully delivered to your subscribers' inboxes. There are two kinds of bounces: [hard bounces and soft bounces](#).

Hard bounce

Hard bounces occur when the receiving server is either unable to deliver or rejects the message. It can also occur when there is no mail server at that address, or the domain doesn't exist at all. This can be caused by anything from typos to deleted user accounts.

In most cases, if you receive a hard bounce, immediately removing it from your list is the best course of action. A hard bounce indicates a permanent reason that an email can't be delivered and that this address should not be mailed to in the future. Removing hard bounces doesn't necessarily mean deleting them; you can also deactivate them or add them to a suppression list. That way, you won't re-acquire the same invalid email address and send to it again. Most ESPs manage this process on your behalf; we recommend verifying their policies directly with your provider.

Soft bounce

A soft bounce means that the recipient exists, but for whatever reason, they couldn't receive your message. Soft bounces typically indicate temporary delivery issues. This could mean a user's mailbox is full, for example.

Though this isn't your fault, you should eventually consider repeated soft bounces to be the same as hard bounces. MailChimp, for instance, unsubscribes users that soft-bounce seven times in a row. It could also mean the email you sent exceeded the maximum size the subscriber's inbox allows. In addition, rate-limiting or throttling might be at play. An ISP may only allow a certain amount of connections per hour or per day, so if you exceed that, you may get throttled or blocked.

Spam complaints

A spam complaint occurs when a subscriber receives your email, and then marks it as spam. There are numerous reasons why this could occur, including:

- You didn't have permission to email them
- You were emailing too frequently
- You were sending irrelevant content
- They couldn't find your unsubscribe link
- You sent them emails after they opted out
- They thought your unsubscribe process was too long

You can lower your spam complaint rate by only sending relevant content to opt-in subscribers, making it easy for subscribers to opt out, honoring unsubscribe requests quickly, and partaking in list hygiene activities to remove inactive, uninterested subscribers.

Social media mentions

Use social media mentions to measure the virality of your email campaign. You can find this data via social monitoring platforms like Sprout Social and Hootsuite, or anecdotally through social mentions within the Twitter interface. Use this data to see which content is shared the most, as well as which segments of your audience are more likely to share on social.

Email replies and inquiries

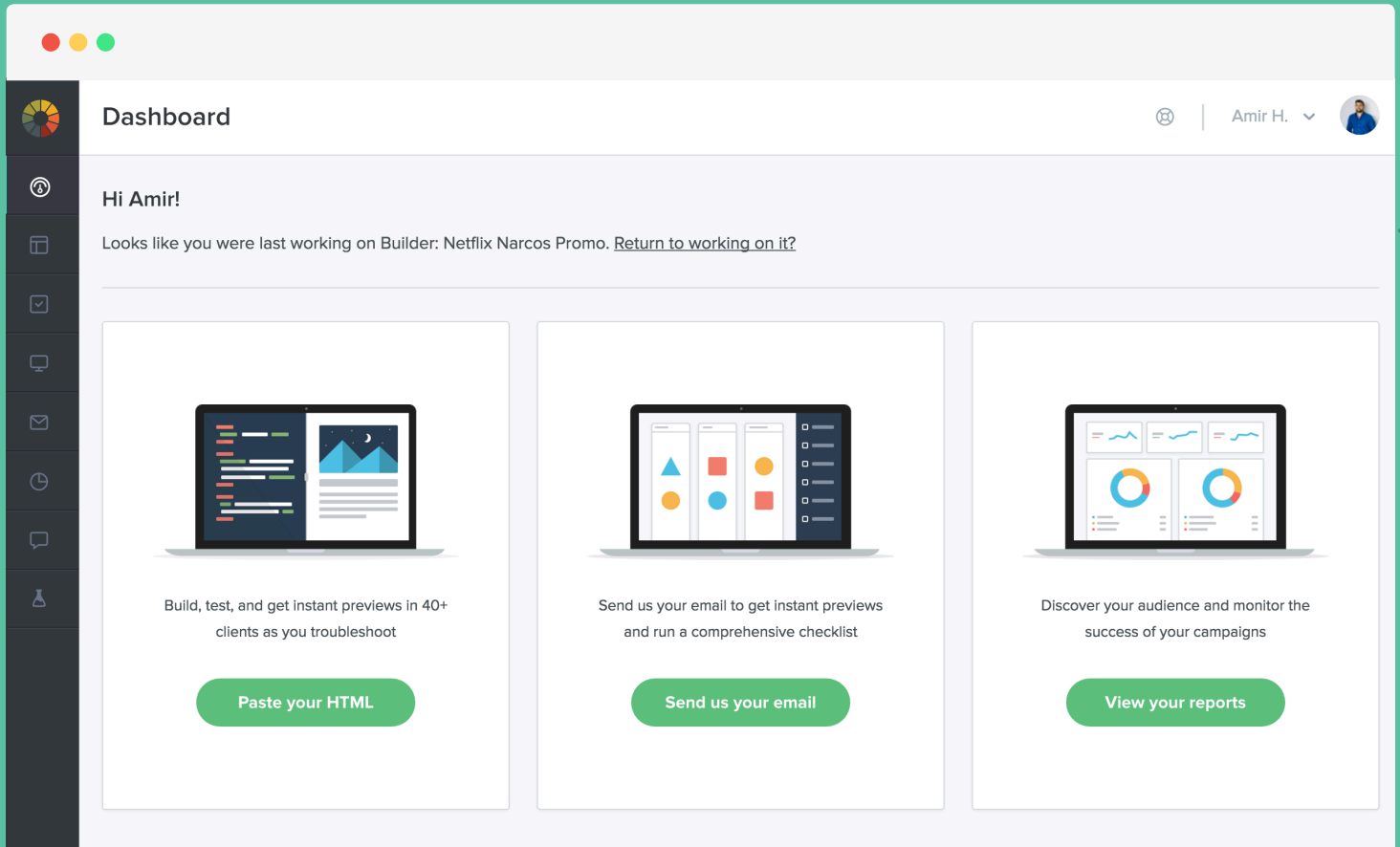
Depending on the goal and CTAs within your campaign, email replies may be a good metric to measure as well. For example, if you're sending a campaign asking customers how they're enjoying your product and if they have any questions, monitor how many responses you receive. Did a lot of people reply back with feedback, or did you get minimal response? The quantity and quality of replies can guide future sends—wording, audience segments, etc.



START SENDING GREAT EMAIL

Email is the perfect medium to build and foster relationships with your customers and prospects. While a lot goes into creating successful campaigns, the key is to put yourselves in your subscribers' shoes. By marrying their expectations and needs with that of your business, you're well on your way to sending relevant, targeted communications.

Start sending better emails today.
Try Litmus free.



Create an incredible email experience

The Litmus Email Creative Platform empowers your team to deliver the best brand experience and get the best results.

Try Litmus free