



# Understanding QLED and OLED TV Technologies: A Simple Guide

Discover the key differences between today's leading TV technologies and find the perfect display for your home

# What is OLED? The Self-Lighting Pixels

## How It Works

OLED stands for Organic Light Emitting Diode. Each individual pixel emits its own light—no backlight required.

## Key Benefits

- Perfect blacks and infinite contrast
- Ultra-thin, flexible screen designs
- Exceptional viewing angles
- Instant response times



# What is QLED? Quantum Dots Meet LED Backlights



## LED Backlight

Traditional LED lights illuminate the display from behind



## Quantum Dots

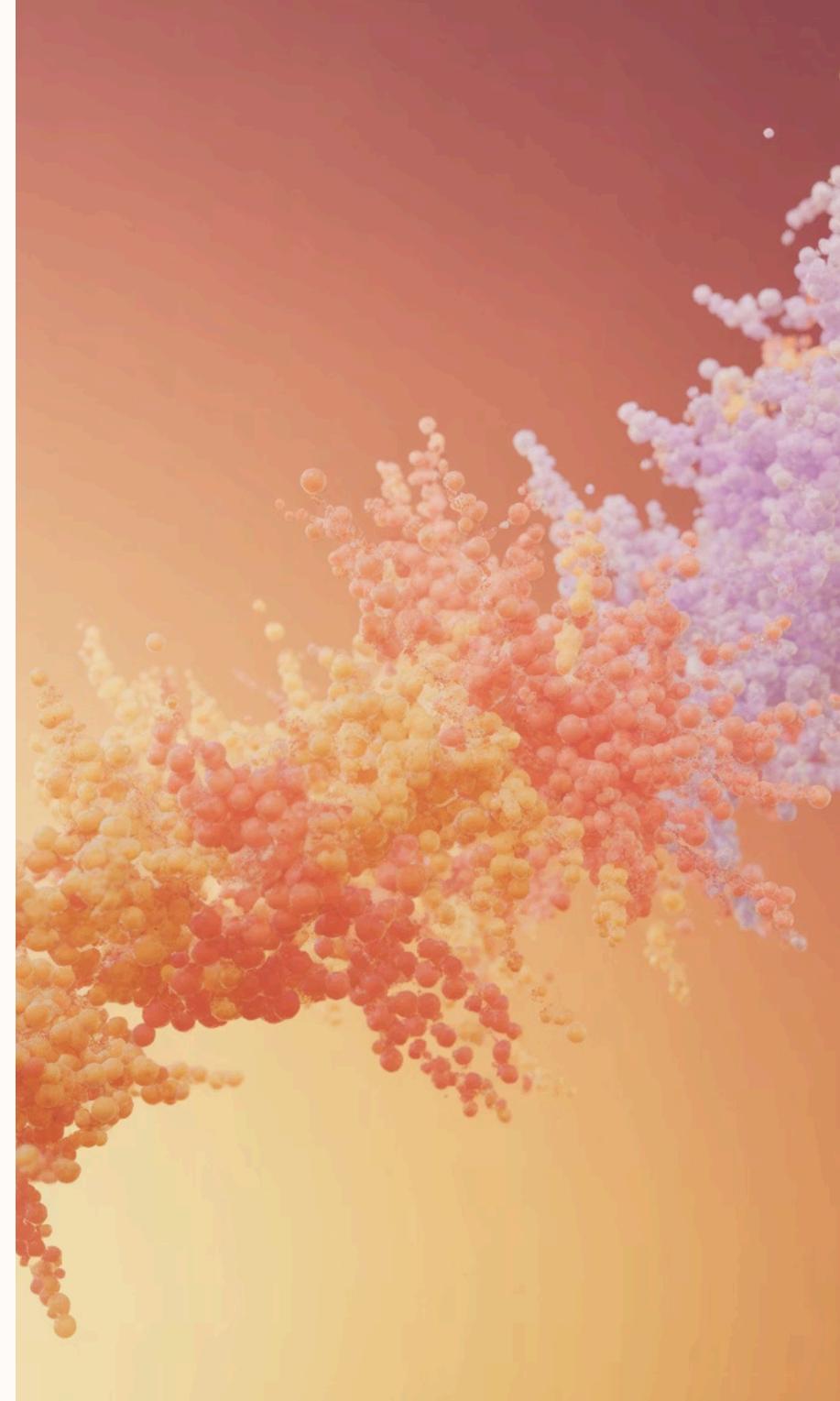
Tiny nanoparticles enhance colour accuracy and brightness



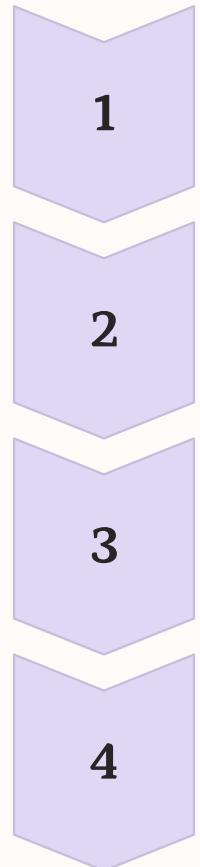
## LCD Panel

Controls which colours pass through to create the image

QLED means Quantum Dot LED TV—an advanced LCD technology that uses quantum dots to deliver brilliant colours and impressive brightness, though blacks aren't quite as deep as OLED



# The QLED "Sandwich": Layers Behind the Picture



## 1 LED Backlight Layer

Powerful LEDs (or Mini LEDs in Neo QLED) provide illumination

## 2 Quantum Dot Film

Converts blue LED light into precise, vibrant colours

## 3 LCD Panel

Controls pixel-by-pixel brightness and colour

## 4 Your Brilliant Image

Light passes through all layers to create stunning visuals

- ❑ **Neo QLED Innovation:** Uses thousands of tiny Mini LEDs instead of standard LEDs for dramatically improved contrast and more precise local dimming zones



# OLED Varieties: Traditional, Tandem, and QD-OLED



## Traditional OLED

Self-emissive organic pixels deliver perfect blacks, infinite contrast, and exceptional uniformity. The original premium display technology



## Tandem OLED

Dual OLED layers stacked together produce significantly brighter images whilst maintaining deep blacks and contrast



## QD-OLED

Revolutionary hybrid combining OLED's self-emissive pixels with quantum dots for richer colours, enhanced brightness, and wider colour volume

# QLED Varieties: Standard and Neo QLED

## Standard QLED

- Traditional LED backlighting
- Quantum dot colour enhancement
- Excellent brightness and value
- Proven, reliable technology

## Neo QLED

- Thousands of Mini LEDs
- Precise local dimming control
- Deeper blacks, less blooming
- Superior contrast performance



Both QLED variants excel in bright environments with vivid, punchy colours that resist glare and maintain visibility in daylight

# Comparing Strengths: When to Choose OLED



## Perfect for Dark Rooms

Absolute blacks and infinite contrast create truly cinematic viewing experiences for films and dramatic content



## Superior Viewing Angles

Consistent colour and brightness from any seat—ideal for group watching and wide seating arrangements



## Ultra-Thin Design

Remarkably slim, flexible panels enable sleek, modern installations that blend seamlessly into your space



## Instant Response

Near-zero input lag and instant pixel response make OLED perfect for gaming and fast-action sports

- Burn-in Note:** Modern OLEDs include pixel-shifting and screen-refresh features that significantly reduce burn-in risk, though caution with static images remains advisable



# Comparing Strengths: When to Choose QLED or Neo QLED

## Bright Room Champion

Exceptional peak brightness combats glare and maintains picture quality in sunlit spaces

## Better Value

Generally more affordable than OLED, especially in larger screen sizes

## Burn-in Resistant

LCD technology means no risk of permanent image retention—perfect for gaming, news, or static content

## Neo QLED Advantage

Mini LED backlighting delivers OLED-like contrast with QLED brightness—the best of both worlds

# Quick Recap: Key Differences at a Glance



## OLED Technology

- Self-emissive pixels
- Perfect blacks
- Ultra-thin panels
- Best in dark rooms



## QLED Technology

- LED backlight + quantum dots
- Higher peak brightness
- Excellent for bright rooms
- No burn-in risk



## Neo QLED

- Mini LED backlighting
- Enhanced contrast
- Precise dimming zones
- Premium QLED option



## QD-OLED Hybrid

- OLED + quantum dots
- Richer colours
- Improved brightness
- Cutting-edge tech

# Which One is Right for You?



## For Cinema Lovers

OLED delivers unmatched deep blacks and cinematic contrast for the ultimate home theatre experience



## For Bright Spaces

QLED or Neo QLED provides brilliant, vibrant pictures that shine in sunlit rooms and combat glare



## For Early Adopters

QD-OLED combines the best of both worlds—watch this space for the latest innovation

Consider your budget, room lighting conditions, viewing habits, and content preferences to make the perfect choice for your home entertainment setup

