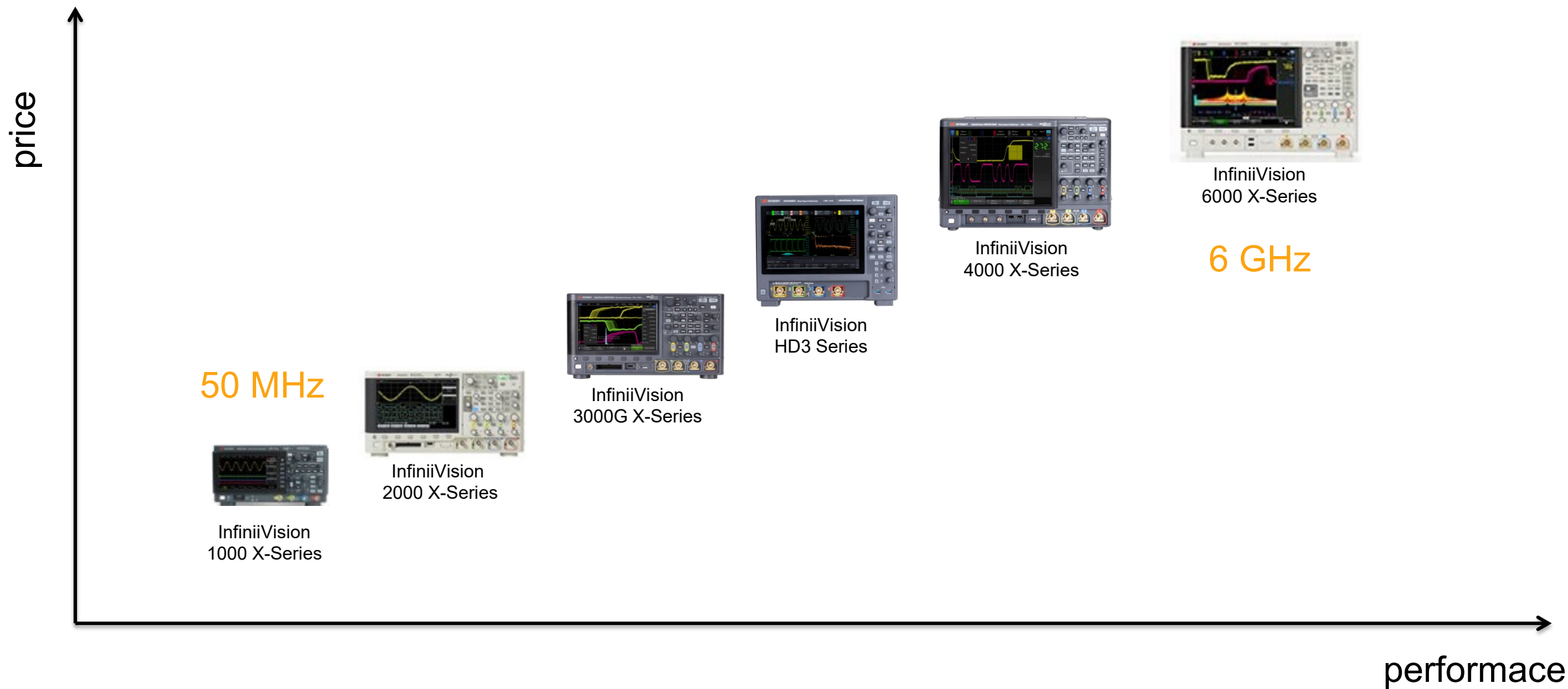


# Keysight HD3 oscilloscopes





# Keysight InfiniiVision oscilloscopes





# Keysight HD3 oscilloscope

- new (released in September 2024) and industry-leading low-to-mid range oscilloscope
- 2 or 4 analog channels + 16 digital channels
- 14-bit ADCs (real hw resolution)
- very „clean“ low noise analog frontend
  - under 50  $\mu\text{V}$  rms intrinsic noise in full 1 GHz bandwidth
- 200 / 350 / 500 / 1000 MHz bandwidth
  - fully upgradeable with license
- 3.2 GSa/s sample rate for all channels (not shared)



# Keysight HD3 oscilloscope

- 20 / 50 / 100 Mpoints capture memory for each channel
- fast update rate > 1 300 000 waveforms/s
  - doesn't slow down with math, measurements, ...
- pre-defined fine bandwidth limits
  - bandwidth filters + limited sample rate + “hi-res” averaging
  - 5, 10, 20, 50, 100, 200, 350 MHz limits
  - significant noise reduction for capturing „slow“ signals
- larger and configurable display
  - individual waveforms can be arranged in separate grids with different vertical settings; user can define custom display layout



# Keysight HD3 oscilloscope

- HD3 series uses custom hybrid ASICs which enable fast hw accelerated signal processing
  - fast update rate, hw mask test, hw serial decoding, hw zone trigger
- HD3 oscilloscopes are almost completely software upgradeable (except for the number of channels)
- included standard functions
  - frequency response analysis (FRA), Fault Hunter, Zone trigger, Segmented memory, Mask test, Histograms, FFT, DVM, Counter
  - MSO – the 16 digital channels are always present and licensed; only the cabling needs to be purchased



# Keysight HD3 oscilloscope

- demo:

- 1) GUI overview
- 2) low level signal triggering; comparison with 8-bit Keysight 3000G
  - BW filters, Hi-res, averaging, trigger hysteresis
- 3) FFT noise floor; very low level signal measurement
- 4) gated FFT (RF gen – 20 MHz, FM 1 kHz; 10 MHz)
- 5) measurement trend function