

Designing a Cost-Effective Video System Based on Pixels-per-METER

By designing a "Pixels-per-Meter" video surveillance system, installers and end-users will get an accurate sense of how many cameras are needed to effectively monitor a facility with predictable image quality. The concept is simple:

PART 1: Determine Resolution

Different applications require different resolution. There are 3 major categories of resolution and it's essential to determine the necessary resolution for the application:



General 66 pixels/meter

General Surveillance – Capture general information, identify a traffic jam or a crowd, but reading license plates or recognizing faces is not necessary.

Typical Applications – Traffic, City Centers, Arenas/Stadiums, Military, Shopping Malls



Forensic 131 pixels/meter

Forensic Detail – Install the fewest number of cameras, get the maximum coverage area and be able to recognize a face or read a license plate.

Typical Applications – Schools, Airports, Retail, Banking, Tolls/Parking Lots, Casinos, Commercial/Industrial



High 262 pixels/meter

High Detail – Identify every detail like currency or casino chip values.

Typical Applications – Cash Counting Rooms, Casino tables, Machine Vision

PART 2: Evaluate and Select Cameras/Options

Once you determine the necessary resolution based on pixels/meter, you can evaluate what type and how many IQeye cameras you will need to cover the area at the desired resolution. The chart below illustrates the basic horizontal coverage with each resolution option:

CAMERA RESOLUTION			HORIZONTAL COVERAGE		
MP	Pixels (H)	Pixels (V)	General	Forensic	High
0.1	320	240	5m	2m	1m
0.3	640	480	10m	5m	2m
0.4	752	480	12m	6m	3m
1.3	1280	1024	19m	10m	5m
2	1600	1200	24m	12m	6m
3	2048	1536	31m	15m	8m
5	2560	1920	39m	19m	10m

Example:

How can I get Forensic Detail over a 19 meter wide area? Possible Solutions:

CAMERA TYPE	QTY REQUIRED
5 MP Camera	1
1.3 MP Camera	2
VGA (640x480) Camera	4

THE RESULT:

Deliver the resolution needed every time! And by evaluating the various camera options you can maximize a limited budget and get a system that exceeds the security needs and expectations of end users.