Western Digital
Smart Video Storage Survey

September 2020

TABLE OF
CONTENTS

01

Do you work for or own a security integration company engaged in the sale design installation and/or service of commercial/industrial market video surveillance systems?

RESPONSE SUMMARY

Question 1 serves as a qualifier that seeks to ensure only those with experience in deploying smart video/surveillance continue the survey. Of 205 respondents who began the survey, 157 or 76.59 percent of them confirmed that they were involved in selling and deploying some form of surveillance systems, and were asked to continue to complete the survey.

76.59% of 100%

OR

157 of 205

See Appendix for full data results

02

PURCHASE DECISIONS

What percentage of your company's storage design decisions are made by the following people prior to client proposal? (must add up to 100%)

RESPONSE SUMMARY

When asked who makes the storage design decision prior to integrators coming in to do the work, the respondents selected answers showing that a combined 58 percent of the decisions were made by the integrators' engineering and sales teams and 20 percent by the customer. Just 15 percent chose camera manufacturer, and 7 percent said a security consultant plays the lead role.

Sales	Engineering/ Estimating Team	Customer	Camera/Recorder Manufacturer	Security Consultant
29%	29%	20%	15%	7%

See Appendix for full data results

03

VERTICAL MARKETS

> **What percentage of your company's video surveillance business is derived from each of the following vertical markets?**

RESPONSE SUMMARY

The survey asked what percentage of a company's video surveillance business is derived from several predetermined vertical markets that the survey listed. The respondents said the leading use case was cameras in Commercial/Office Buildings (21 percent); followed by Industrial Manufacturing (14 percent), School/Universities (12 percent) and Retail (11 percent).
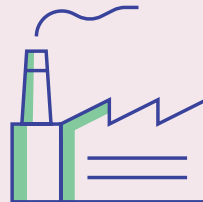
Note: Top 4 uses cases are shown.

Commercial/Office	Industrial Manufacturing	Schools/Universities	Retail/Entertainment
21%	14%	12%	11%

See Appendix for full data results

04

2019 VERTICAL MARKET GROWTH

For each of the following vertical markets indicate the percentage of video surveillance business growth during 2019.
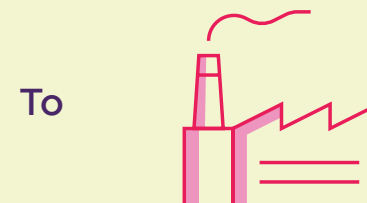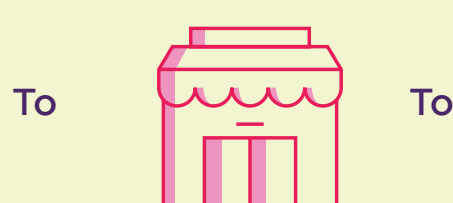
RESPONSE SUMMARY

Respondents were asked to the assess the growth they have seen in several verticals in 2019, ranking each market by a percentage range of growth in surveillance deployments. Looking at the two highest growth ranges (31 – 50 percent, and 50 percent and above) the respondents' choices indicated that Office/Commercial Buildings use cases grew the most. In second place, respondents chose Retail/Entertainment. In third place for growth in 2019, were smart video deployments in Industrial Manufacturing.

31+% Growth

Office/Commercial		Retail/Entertainment		Industrial Manufacturing
From		To		To

See Appendix for full data results

Which vertical markets do you anticipate video surveillance demand growing the fastest during the next 3–5 years? (select all that apply)

RESPONSE SUMMARY

The respondents shared the following: Schools/Universities (54 percent); followed by Office/Commercial buildings (43 percent); with a tie for Government Facilities and Retail/Entertainment (31 percent each). A close fourth place was the up-and-coming area of City/Traffic (29 percent), and a close fifth place was Mass Transportation (28 percent). More than 25 percent of respondents identified mass public transportation facilities and city/traffic surveillance as some of the fastest growing vertical markets during the next 3–5 years.
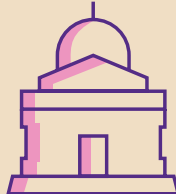
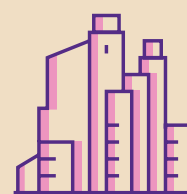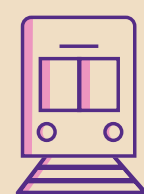| Schools/Universities	Office/Commercial	Government Facilities	Retail/Entertainment	City/Traffic	Mass Transportation
54%	43%	31%	31%	29%	+ 28%

See Appendix for full data results

06

STORAGE TYPE USED

What percentage of your video surveillance deployments use the following types of storage? (must add up to 100%)

Hard drives, Solid state drives, MicroSD cards and Cloud

RESPONSE SUMMARY

The respondents gave a big vote of confidence to hard drives, which at 50 percent, make up the bulk of their surveillance storage deployments. This was followed by cloud at 21 percent; solid state drives at 19 percent; and microSD cards at 10 percent. There are limited microSD solutions today in surveillance, but the proliferation of in-camera storage and new use cases, where high endurance and reliability are required, is making this a large addressable market.
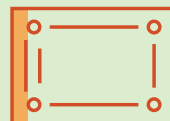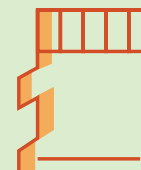
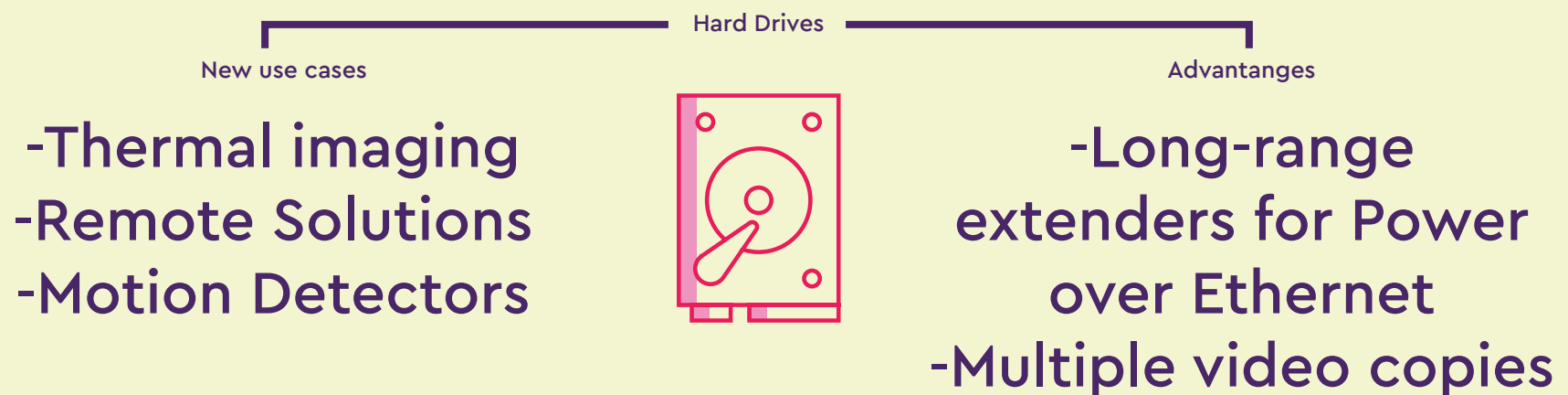| Hard Drives	Cloud	Solid State Drives	MicroSD Cards
50%	**21%**	**19%**	**10%**

See Appendix for full data results

07
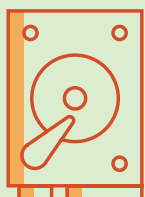
HDD Use Cases

Please describe any new or cutting-edge HDD use cases involving surveillance cameras recorders and/or storage your company has deployed (customer name not required).

RESPONSE SUMMARY

When those polled were asked for write-ins for any other new use cases for hard drives, there were mentions of thermal imaging, remote solutions and specific use cases for detecting movement in nursing homes' hallways, and also, in city parking garages. Advantages cited were the ability to use HDDs for long-range extenders for Power over Ethernet and the ability to have multiple copies of videos.

Hard Drives

New use cases

-Thermal imaging
-Remote Solutions
-Motion Detectors

Advantanges

-Long-range extenders for Power over Ethernet
-Multiple video copies

See Appendix for full data results

08

microSD Use Cases

Please describe any new or cutting-edge microSD card use cases involving surveillance cameras recorders and/ or storage your company has deployed (customer name not required).

RESPONSE SUMMARY

The respondents shared that microSDs are mostly used for in-camera storage, for back-up/ redundancy, and also when there is limited space. Use cases cited by respondents were school security camera systems, city parking and public safety surveillance projects, and for situations when multiple camera locations need to be added onto a base system.

microSD

New use cases

Advantanges

-School security camera systems
-City parking
-Public safety surveillance projects

-In-camera storage
-Backup redundancy
-Limited Space

See Appendix for full data results

09
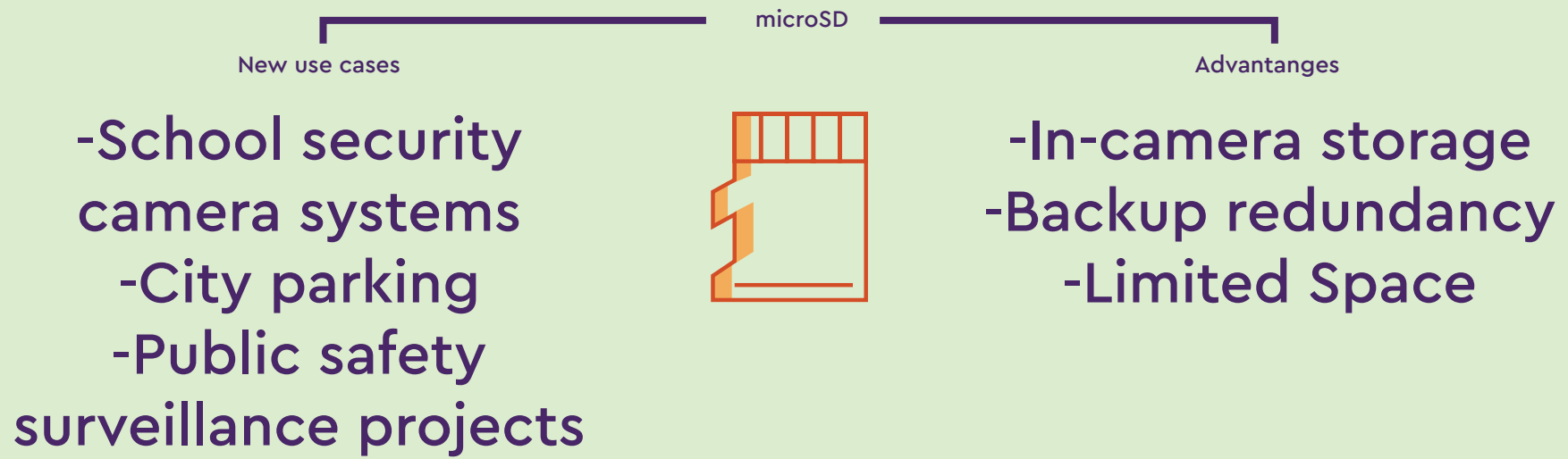
To what extent do you agree with the following statements about video surveillance? (scale = 1–5 with 1 being lowest level of agreement and 5 being the highest level of agreement)

RESPONSE SUMMARY

This question asked respondents to respond to a number of statements.

a.   The highest level of respondent agreement went to the following statement: "I see video analytics and artificial intelligence playing an ever-increasing role." 76 percent agreed with either a high 4 or a 5 in importance.

b.   The second highest ranked statement was: "I see remote management/configuration of video storage as essential." 73 percent agreed with a high 4 or a 5 in importance.

c.   The third ranked statement was: "It is important for security cameras to feature significant onboard storage." 70 percent agreed ranking this statement with a high 4 or a 5 in importance.

"I see video analytics and artificial intelligence playing an ever-increasing role."	"I see remote management/ configuration of video storage as essential."	"It is important for security cameras to feature significant onboard storage."
76%	**73%**	**70%**
SCALE 4 OR 5	SCALE 4 OR 5	SCALE 4 OR 5

See Appendix for full data results

10

HDD Features

Please rate the following features as being most important to you for hard drive (HDD) storage (scale= 1–5 with 1 being the least important and 5 being the most important)

RESPONSE SUMMARY

Looking at just the 5 – extremely important, and 4 – very important rankings, the respondents said that the top requirement for an HDD solution is Endurance/Reliability (47 percent), followed by Performance (46 percent), then Capacity (42 percent). Cybersecurity was next (39 percent) and Cost was not as important (30 percent).
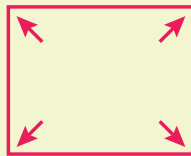
Endurance/Reliability	Performance	Capacity	Cybersecurity	Cost
47%	46%	42%	39%	30%

See Appendix 1 for full data results

11

microSD Card Features

Please rate the following features as being most important to you for microSD card storage. (scale = 1–5 with 1 being the least important and 5 being the most important)

In compiling only the highest rankings among responses, those cited as being "very important" or "extremely important," the survey results showed that the respondents' most highly-rated features were: Endurance/Reliability (56 percent), High Capacity (42 percent), and, being Removable (also 42 percent). Less important, but still considerations, were Small Form Factor (36 percent) and Cost (35 percent).
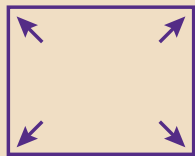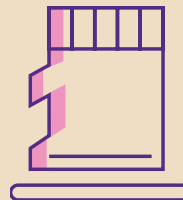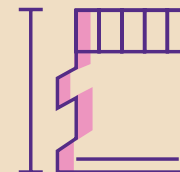
Endurance/Reliability	Capacity	Removable	Small Form Factor	Cost
56%	42%	42%	36%	35%

See Appendix for full data results

12

Onboard Use Case

Which of the following is the most important use case for onboard camera storage?

Backing up other systems, such as network video recorders (NVR) with HDDs, was a key use of onboard camera storage as cited by 74 percent of the integrators; another 34 percent of them say they use onboard camera storage as primary storage in surveillance deployments. This seems to indicate the versatility of onboard storage such as microSD cards which serve as backup for NVRs, and as also as the main source for capturing video and storing it locally.

| Backing up other systems		Primary storage
74%	&	34%

See Appendix for full data results

13

Cameras With Onboard Storage

What percentage of your company's surveillance solution cameras include embedded onboard storage?

RESPONSE SUMMARY

The largest percentage of respondents who deploy cameras with onboard storage, 16 percent, say about 21 to 30 percent of surveillance deployments use onboard storage. The next largest group, 13 percent, say 10 to 15 percent of their deployments use onboard storage. Thirdly, the next highest number of respondents, or 10 percent said 51–75 percent of their deployment use onboard storage. (Of 157 polled, 11 percent do not use systems with onboard storage.)
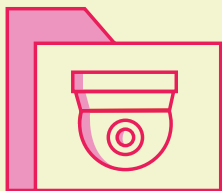
| 21%-30% include onboard storage	10%-15% include onboard storage	51%-75% include onboard storage	No focus on onboard storage
16%	**13%**	**10%**	**11%**

See Appendix for full data results

14

microSD Slot

Of those cameras with embedded onboard storage what percentage feature a microSD slot?

RESPONSE SUMMARY

MicroSD cards are a relatively new storage product designed for new versatile use cases in commercial surveillance. The top answer, which was given by 31 percent of those polled, showed that 75 percent or more of the cameras these integrators deployed have microSD slots. 10 percent of respondents said microSD slots exist in 16–20 percent of onboard cameras they deployed, followed by a two-group tie at 7 percent—with one group saying there are microSD slots in 51–75 percent of their cameras that offer onboard storage, and the other group estimating it at 21–30 percent. 17 percent respondents said that they do not have any microSD slots in cameras they deploy.
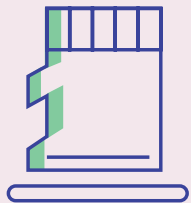
75+% have microSD slots	16%-20% have microSD slots	51%-75% have microSD slots	21%-30% have microSD slots	No microSD slots
31%	10%	7%	7%	17%

See Appendix for full data results