Testing Report

Key Metrics

In [1]:

```
import pandas as pd
import matplotlib.pyplot as plt
import numpy as np
```

In [2]:

```
date_time = '2022-09-26_17.07.08'
log_file = f'logs/{date_time}.csv'

header_info = pd.read_csv(log_file, nrows=0)
print('Reading test log with Settings:')
for col in header_info.columns:
  print(' ', col)
```

```
Reading test log with Settings:
  Duration: 30
  Cameras: 3
  Stitching Algorithm: Homography
```

Sample Images

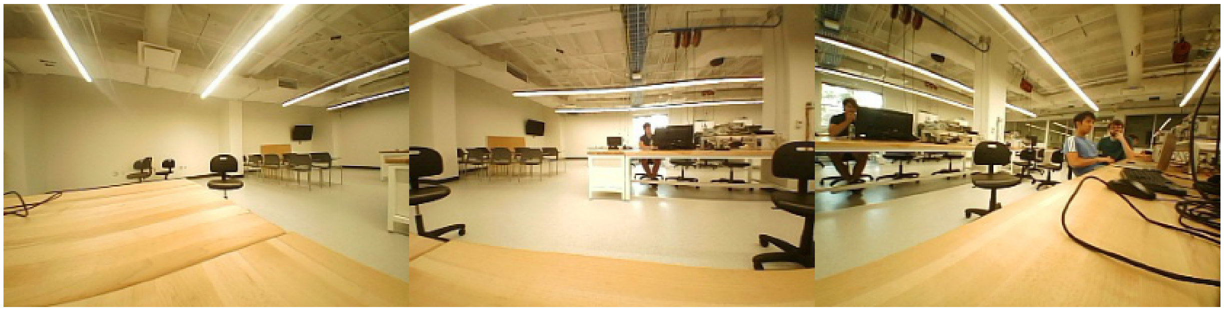
In [3]:

```
num_cameras = int(header_info.columns[1][-1])

from PIL import Image
import matplotlib.pyplot as plt

frames = [np.asarray(Image.open(f'logs/{date_time}_frame{i}.jpg')) for i in range(num_

plt.rcParams['figure.figsize'] = [15, 10]
plt.axis('off')
plt.title('Raw images')
plt.imshow(np.concatenate(frames, axis=1));
```

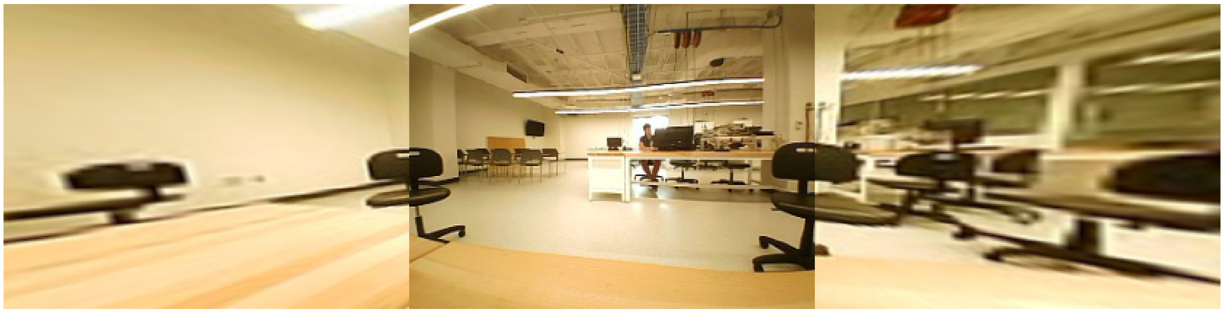


Raw images

In [4]:

```
plt.axis('off')
plt.title('Stitched image')
plt.imshow(np.asarray(Image.open(f'logs/{date_time}_stitched.jpg')));
```

Stitched image



In [5]:

```
df = pd.read_csv(log_file, skiprows=[0])
df.head()
```

Out[5]:

	Start Time	End Time	Status
0	1611.178659	1611.199747	0
1	1611.224962	1611.244671	0
2	1611.289771	1611.312466	0
3	1611.356953	1611.376992	0
4	1611.424957	1611.452870	0

Successful Stitch Times

In [6]:

```
successful_stitches = df[df['Status'] == 0]
successful_stitches.head()
```

Out[6]:

	Start Time	End Time	Status
0	1611.178659	1611.199747	0
1	1611.224962	1611.244671	0
2	1611.289771	1611.312466	0
3	1611.356953	1611.376992	0
4	1611.424957	1611.452870	0

In [7]:

```
stitch_times = successful_stitches['End Time'] - successful_stitches['Start Time']
print("Successful Stitch Time Statistics")
stitch_times.describe()
```

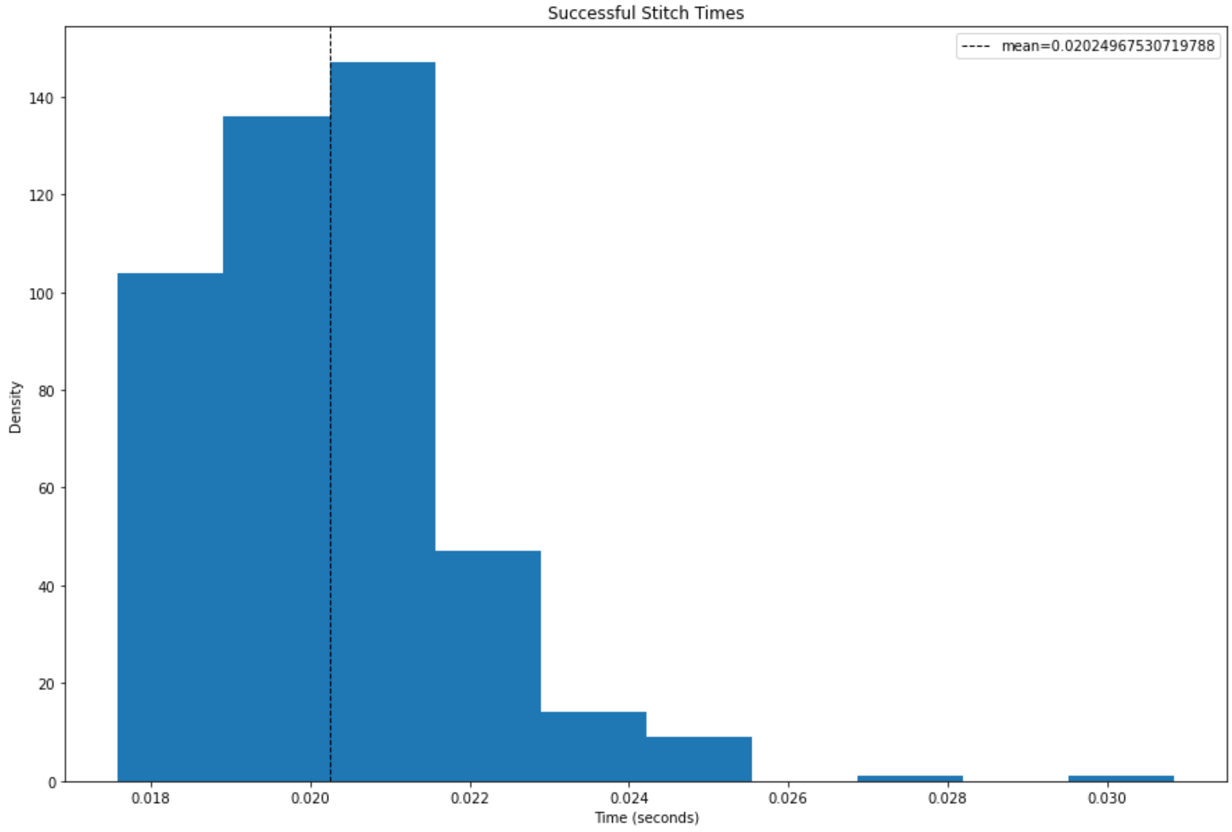
Out[7]:

```
Successful Stitch Time Statistics
count    459.000000
mean       0.020250
std        0.001594
min        0.017586
25%        0.019083
50%        0.020140
75%        0.020998
max        0.030847
dtype: float64
```

In [8]:

```
mean = np.mean(stitch_times)

plt.hist(stitch_times)
plt.axvline(mean, color='k', linestyle='dashed', linewidth=1,label=('mean='+str(mean))
plt.title('Successful Stitch Times')
plt.ylabel('Density')
plt.xlabel('Time (seconds)')
plt.legend();
```

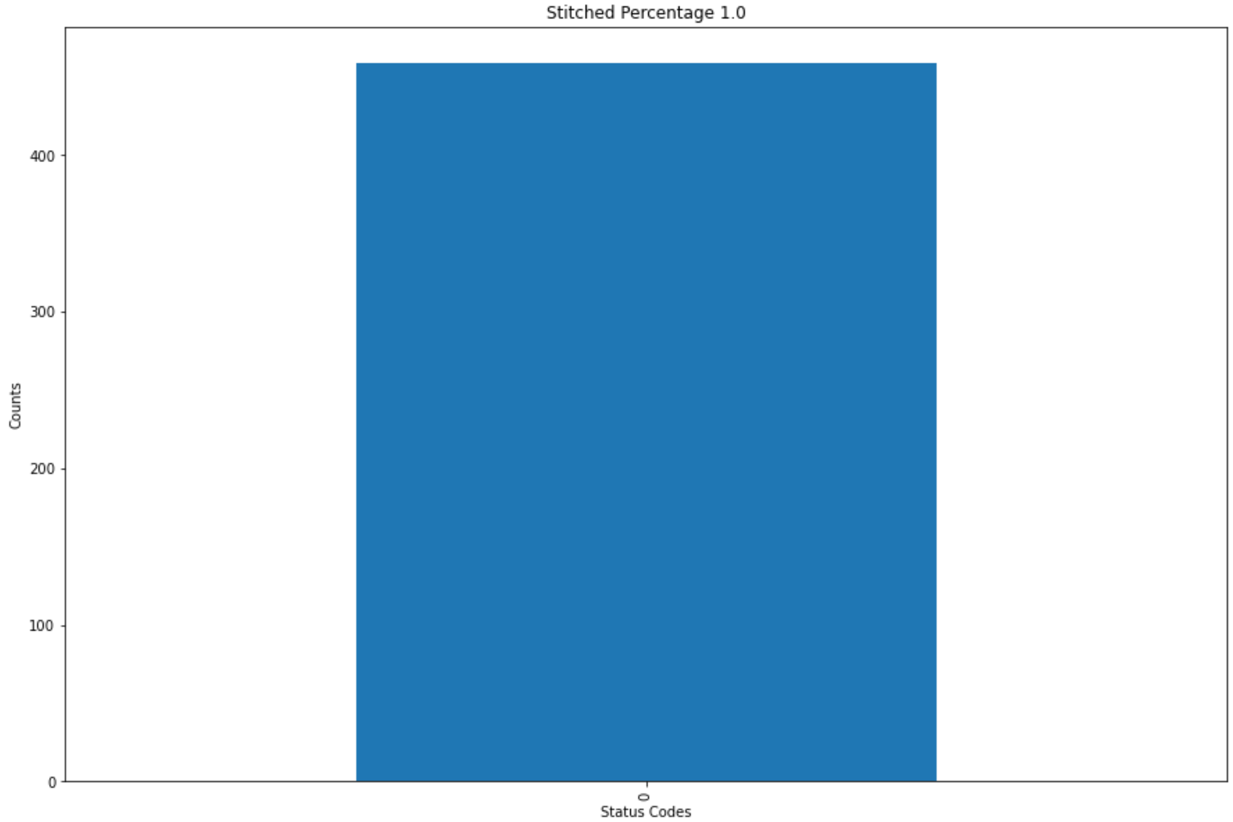


Stitch Percentage

In [9]:

```
stitch_rate = round(successful_stitches.shape[0] / df.shape[0], 2)
stitch_rate

vc = df['Status'].value_counts().sort_index()
vc.plot(kind='bar')
plt.xlabel('Status Codes')
plt.ylabel('Counts')
plt.title(f'Stitched Percentage {stitch_rate}');
```


Stitched Percentage 1.0
Counts
400
300
200
100
0
0
Status Codes

```
In [ ]:
```