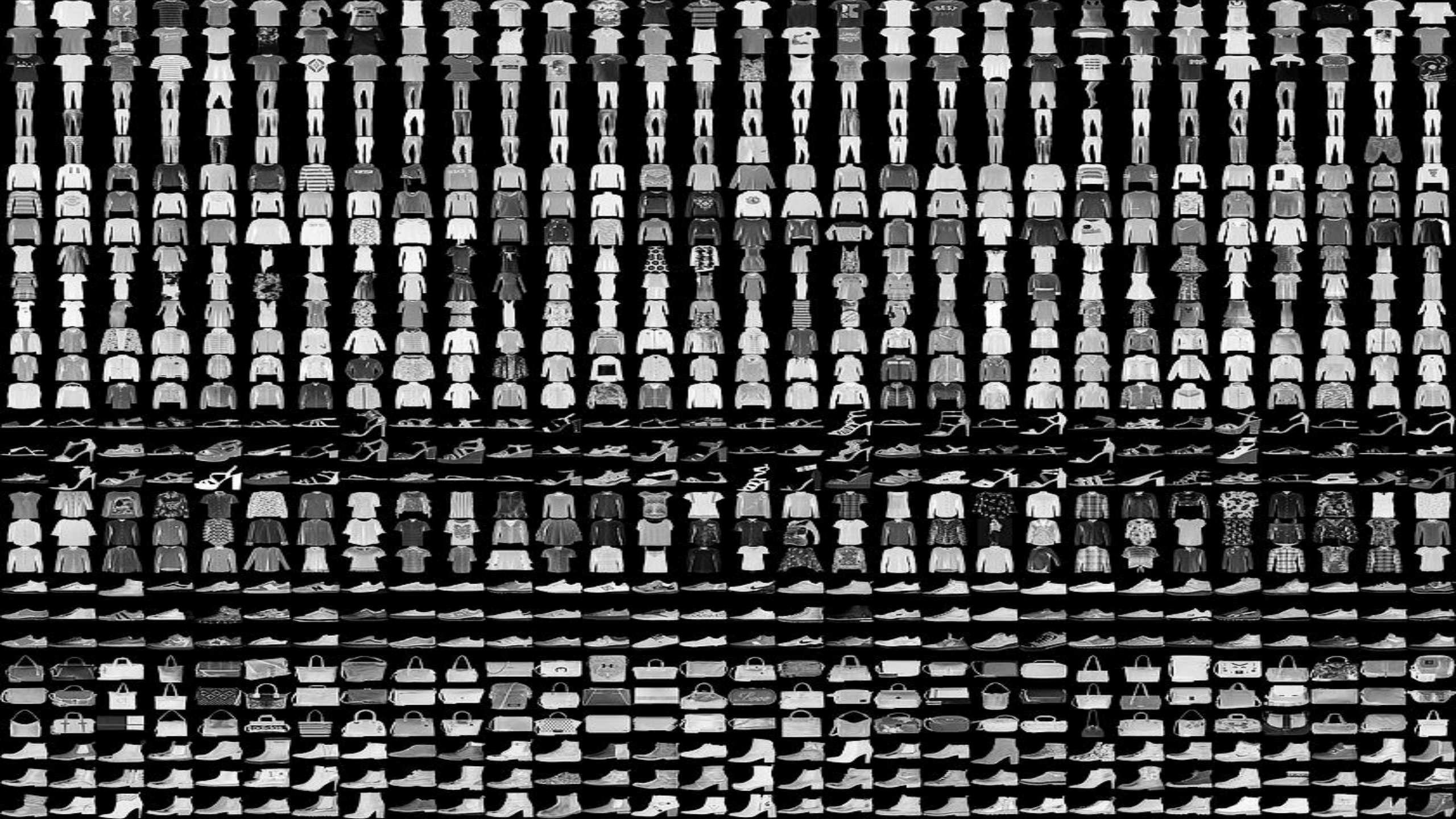
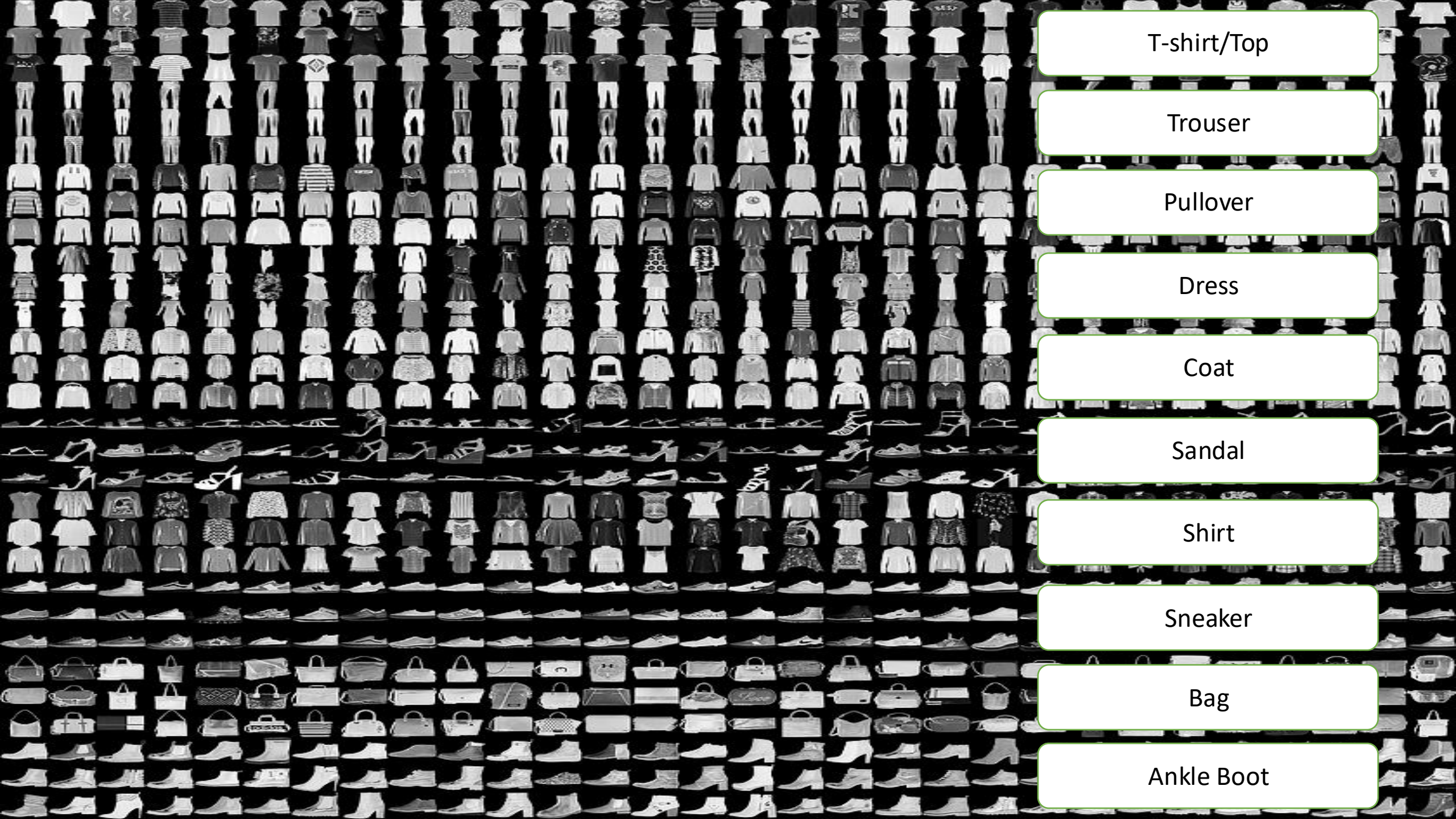
Fashion MNIST

Lab No. 2 – Fashion MNIST

Write a program in Python to recognize Fashion items using the Fashion-MNIST Dataset




T-shirt/Top
Trouser
Pullover
Dress
Coat
Sandal
Shirt
Sneaker
Bag
Ankle Boot

Fashion MNIST

- Fashion-MNIST is a dataset of Zalando's article images—consisting of a training set of 60,000 examples and a test set of 10,000 examples. Each example is a 28x28 grayscale image, associated with a label from 10 classes.
- Zalando intends Fashion-MNIST to serve as a direct drop-in replacement for the original MNIST dataset for benchmarking machine learning algorithms. It shares the same image size and structure of training and testing splits.

Fashion MNIST Objective

- Write code in Python using Jupyter Notebook to classify the fashion items in the image dataset Fashion-MNIST. Use scikit-Learn for MLP and Tensorflow or Pytorch for CNN.
- The Fashion-MNIST dataset consist of 60,000 images for the training set and 10,000 images for the test set.
- Test the performance of the following algorithms:
  - Logistic Regression
  - SVM
  - Random Forest
  - Neural Network (MLP)
  - CNN (Deep Learning)
- Document thoroughly your code in Jupyter Notebook, include tables summarizing your results.
- Take three photos of fashion items for each of the 10 classes in F-MNIST, preprocess them to be used as input to the classifiers, and report your results on these test items.
- Make a 5-10 minute presentation in class explaining your work.

Overview, Data, Code, Tutorials and more…

- https://www.kaggle.com/zalando-research/fashionmnist

Zalando SE is a European e-commerce company based in Berlin, Germany founded in 2008. The company follows a platform approach, offering fashion and lifestyle products to customers in 17 European markets.