Comparison Between Photogrammetry Software packages

1. **ContextCapture**
   The goal of this software is to create a finished 3D model with photographs, without any human intervention. This process is easier than 3D scanning and more precise than 3D modeling. This photogrammetry solution allows working on large infrastructure projects such as cityscapes. It is possible to use both photogrammetry and laser scans for a higher level of accuracy and get reality meshes, perfect to provide precise real-world digital context construction or operations decisions. Moreover, this program includes the ContextCapture Editor, which enables users to edit 3D meshes, generate cross-sections, and extract ground and break-lines.

2. **DroneDeploy**
   DroneDeploy is a cloud-based drone software, helping businesses get accurate 2D and 3D maps ready for analysis. They are specialized in aerial photography. This solution is made of two different apps. One is used to control the drone, and the other one creates your 3D models with all the images from the drone.

3. **Pix4D**
   Pix4D is a beginning-to-end photogrammetry solution. It also assists in the capture of suitable images. **Pix4Dmapper** is the photogrammetry software for professional drone mapping, then additional features include **Pix4Dcapture** to get optimized images, **Pix4Dbim** for earthworks, construction and infrastructure management, etc. Pix4Dmapper generates point clouds, orthomosaics, elevation models and more. It is most suited for applications such as agriculture, surveying, architecture and real estate.

4. **Correlator3D**
   Correlator3D is a mapping software developed by Simactive. This end to end user-friendly photogrammetry software can help produce dense Digital Surface Models (DSM). Digital Terrain Models (DTM), dense point clouds, orthomosaics and great vectorized 3D features**.**

5. **DJI Terra**
   DJI Terra is the mapping software solution offered by DJI. The all-in-one program includes all the resources you need to plan flight missions, capture image data, process images into maps and models, and analyze data for improved decision making. In flight planning, you can choose from pre-programmed mission types such as Waypoints, Area, Oblique, or Corridor, or customize and save your own mission plans. For data processing, DJI Terra offers the ability to create a variety of 2D and 3D maps and models for analysis.

DroneDeploy vs. Pix4Dmapper for Photogrammetry

- **Accuracy**
  Pix4Dmapper is a professional quality software platform, with the ability to collect survey-grade data with <1 cm accuracy. **DroneDeploy,** on the other hand, ranges between 1 cm and 5 cm accuracy even with sufficient GCPs and checkpoints. For projects where precision is paramount, Pix4D comes out on top.

- **Digital Surface and Terrain**
  Both of these popular photogrammetry platforms offer excellent DSM, DTM, and elevation models with comparable visual quality when used with GCPs.

- **3D point cloud**
  DroneDeploy has made major strides in this area after releasing its Structures mode, which processes complex vertical and horizontal data into a point cloud 4x as dense as its Terrain mode. The resulting model is extremely precise when used with GCPs and is visually appealing even without a textured mesh. **Pix4Dmapper** also generates fantastic quality point cloud models and has the additional feature of optional filling and smoothing to improve planarity and complete critical areas.

DJI Terra vs. DroneDeploy vs. Pix4D

- **DJI Terra** is a solid mapping program that offers similar types of outputs to those of DroneDeploy and Pix4Dmapper, including real-time 2D mapping for instant readability of mapping data in remote areas, or in instances where fast decision making is crucial.
- Other similar products include 2D orthomosaics and multispectral reconstructions, and 3D point-cloud models and reconstructions.
- Where DJI Terra falls short of DroneDeploy or Pix4Dmapper is in the overall accuracy and high-quality resolution of the finished maps and models.
- While the real-time 2D mapping offered by both DJI Terra and DroneDeploy are potentially useful in emergency or first response situations, they lack the flexibility and shareability of the unique offering of non-cloud based, fast-mapping from Pix4Dreact.