

# Jampack A smarter, lighter camera protection





#### Our Consumers

#### Urbanites carrying expensive cameras on the go







## Our Vision

A smart, lightweight camera protection

Conformability

Agility

Impact Absorption









### Our Product

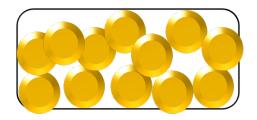
| Cilictomar Naad                       | Product<br>Attributes(s) | Engineering<br>Specification(s) |
|---------------------------------------|--------------------------|---------------------------------|
| • • • • • • • • • • • • • • • • • • • | Impact                   | No damage to camera             |
| camera                                | Absorption               | after 3-ft drop                 |
| Stay quiet when handling              | Noise level              | <50db                           |
| Easy on shoulders                     | Weight                   | <500g                           |
| Can immobilize<br>camera              | Play                     | Camera rattling < 10mm          |



#### Approach—Particle Jamming

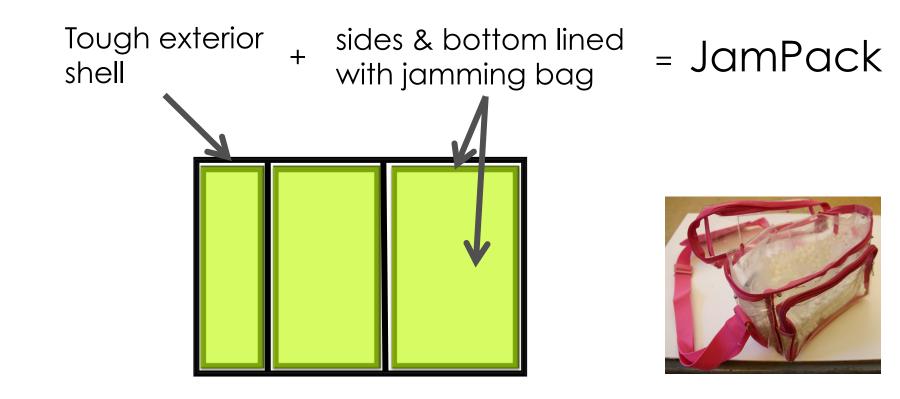
loose particles in a flexible, airtight jamming bag air pumped out

locked, rigid configuration





#### Implementation





### Cost Estimation

| Material   | Cost   |                 |               |
|------------|--------|-----------------|---------------|
| PE Bag     | \$2    | Process         | Cost          |
| EPS Beads  | •      | Heating Sealing | \$0.50        |
| EF3 Deuus  | \$0.50 | Valve Insertion | \$0.50        |
| Valve      | \$1    |                 | <b>ψ</b> 0.00 |
| Outer Case | \$5    | Sewing          | \$1           |





#### Risk 1: Hermetic Seal









### Risk 2: Conformability

| Bag material | PETE (Mylar) | PE   | Polyamide (Nylon) |
|--------------|--------------|------|-------------------|
| Air seal     | Highest      | High | Low               |
| Flexibility  | Low          | High | High              |





#### Risk 3: Impact Absorption



| Bead<br>Material     | EPS          | EPP                     |
|----------------------|--------------|-------------------------|
| Durability           | More plastic | More elastic            |
| Impact<br>Absorption | Higher       | Lower due<br>to rebound |



#### Next Steps

Electric pump integration

Single compartment vs. multiple compartment

Refine bead retention within bag

Bead size