

**HIRSCH** Technology



# KALIPLANMIŞ EPS ENJEKSİYON PARÇALARIN ÜRETİMİNDE ETKEN OLAN FAKTÖRLER

*Tigin Özyapıcı*

**Erlenbach**  
Maschinen

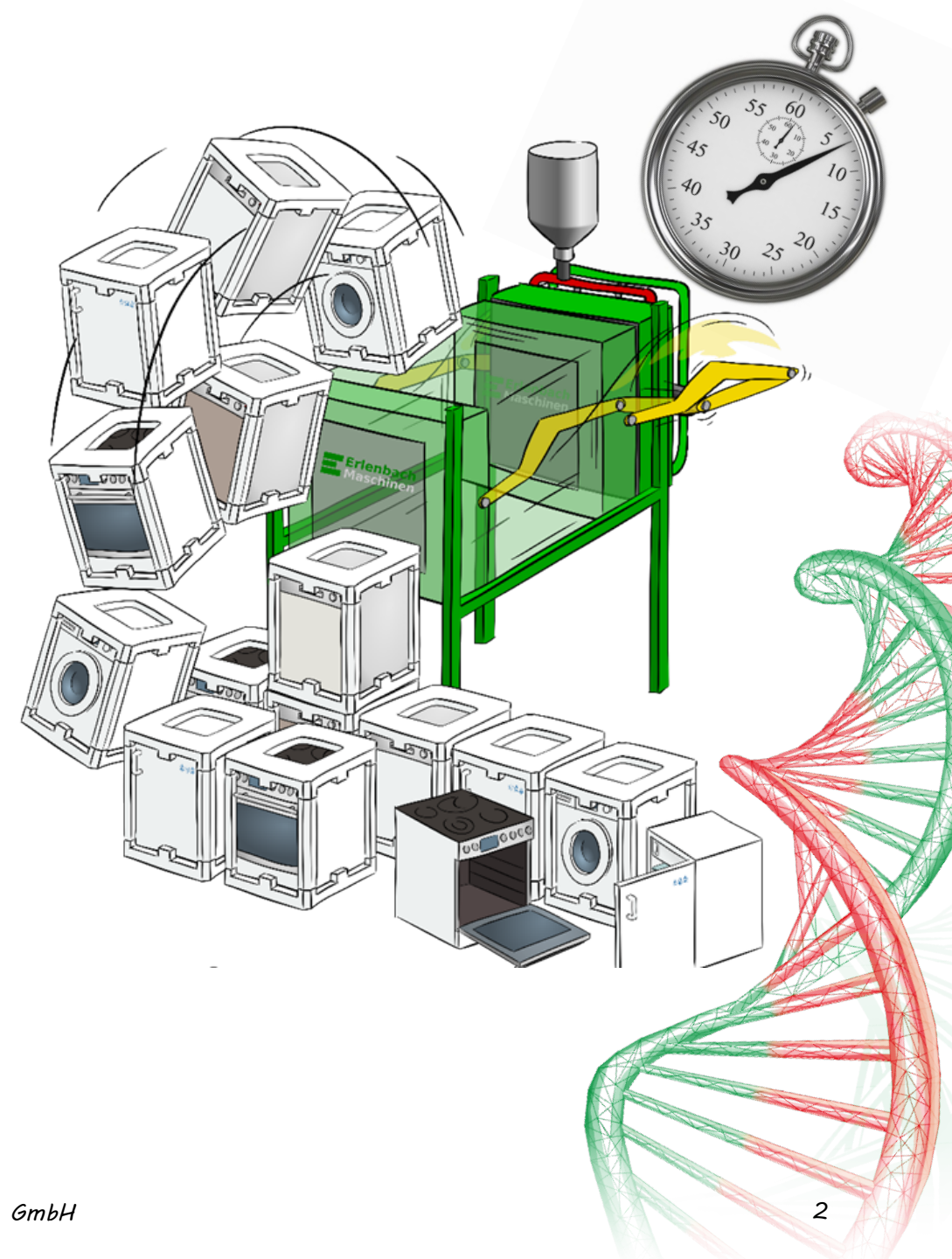
Member of

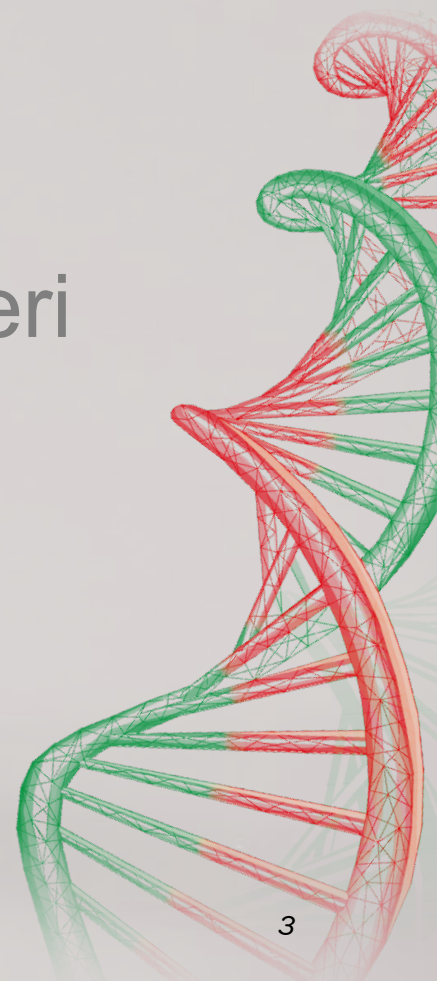


Sizce bu

# balık kutusu ?

kaç saniyede üretilir.



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- 
- **HEDEFLER ve TALEPLER**
  - ETKEN ÇEVRE FAKTÖRLERİ
  - ENJEKSİYON Makinesinin etken faktörleri

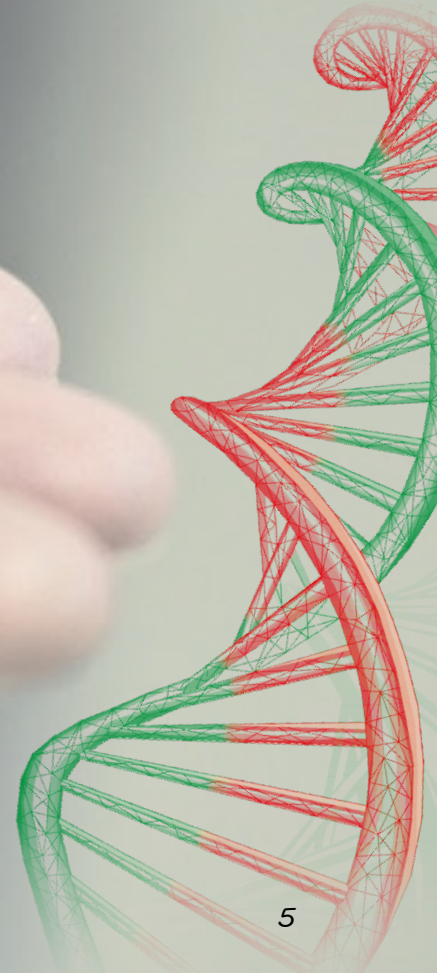


# Hedefler ve Talepler

- Kaynakların optimum kullanımı
- Kusursuz ürün kalitesi
- Maliyet odaklı üretim

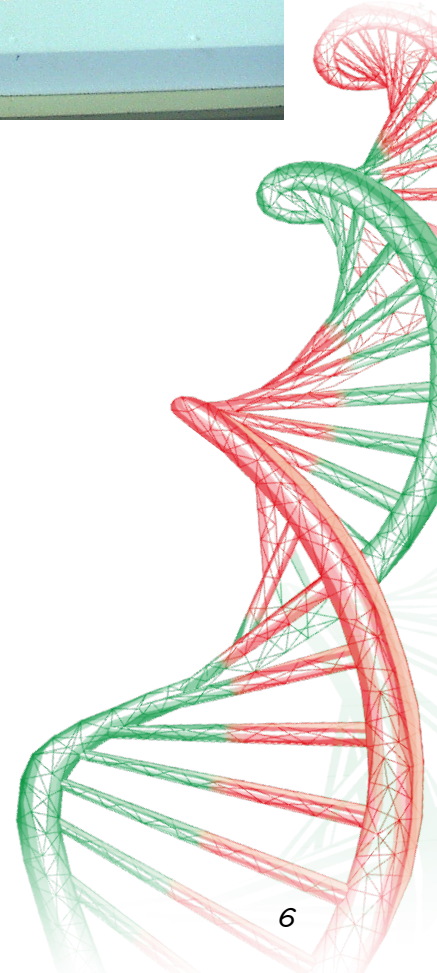
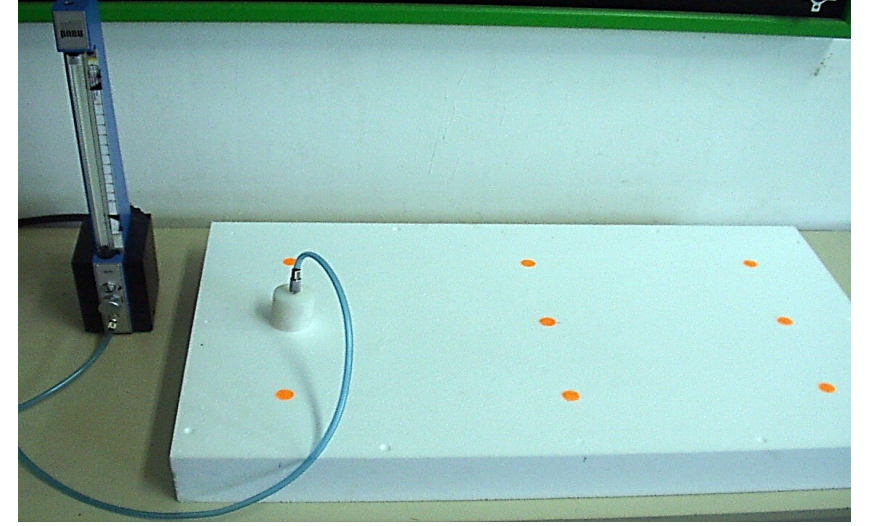
# Kaynakların Optimum kullanımı

- Hammadde
- Enerji
- Personel



# Kusursuz Ürün Kalitesi

- Yüksek füzyon oranı
- Stabil ağırlık ve geometri
- Düşük nem oranı



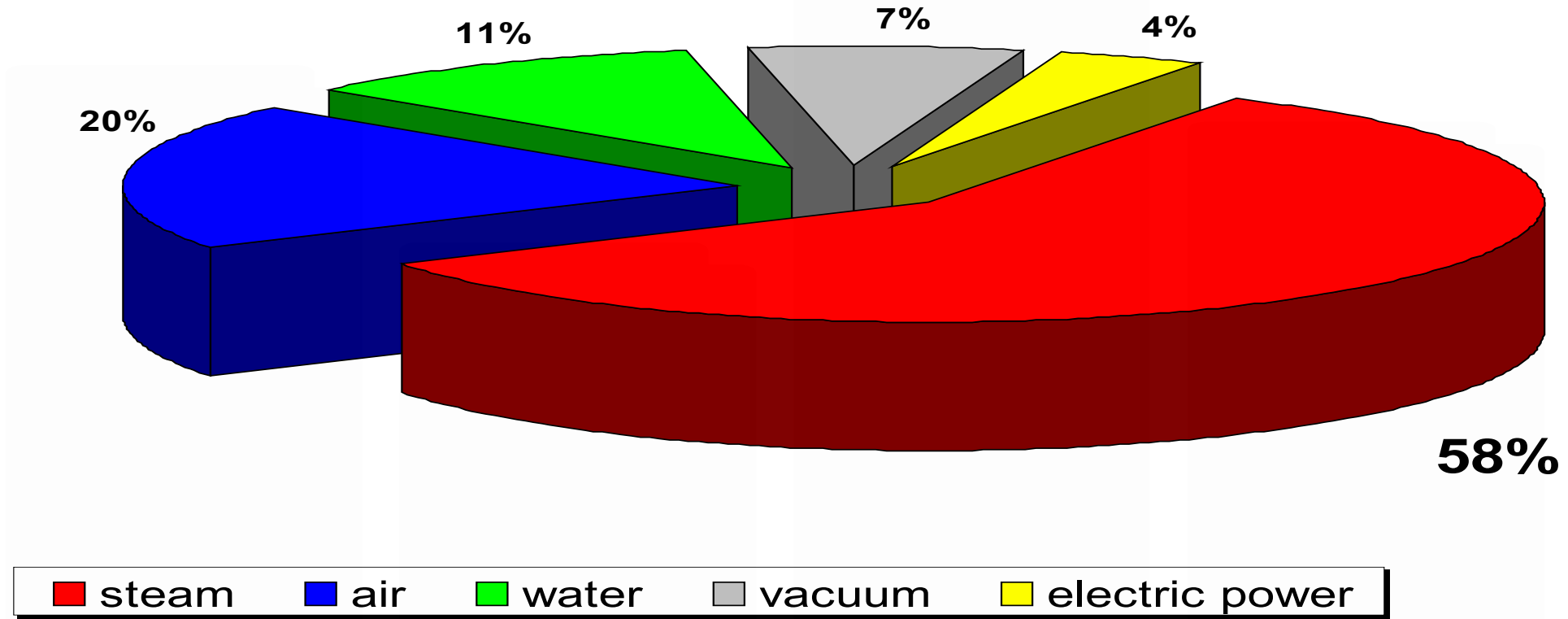


# Maliyet Odaklı Üretim

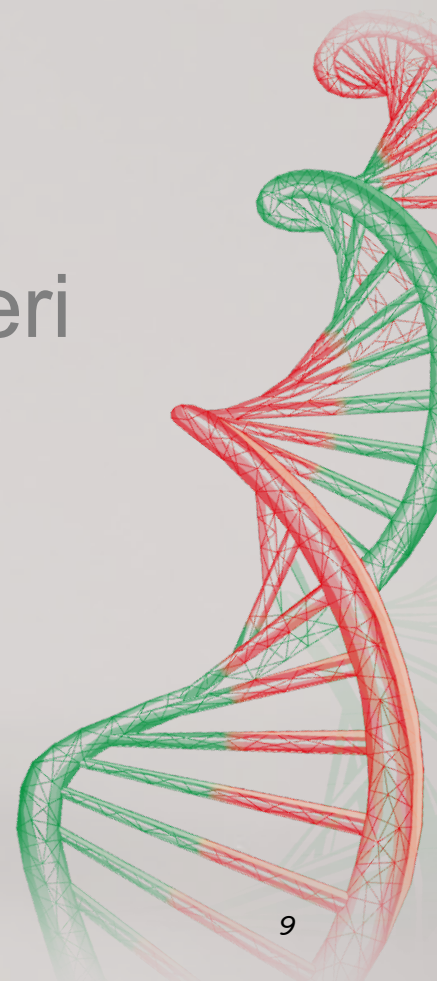
- Minimum red parça oranı
- Yüksek otomasyon kullanımı
- Şeffaf üretim bilgileri

# Maliyet Odaklı Üretim

*Cost structure of EPS moulding*





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# Etken çevre faktörleri

- Malzeme ve depolama
  - Enerji tedariki
    - İş Akışı
      - Kalıp

# Malzeme ve Depolama

## Hammadde

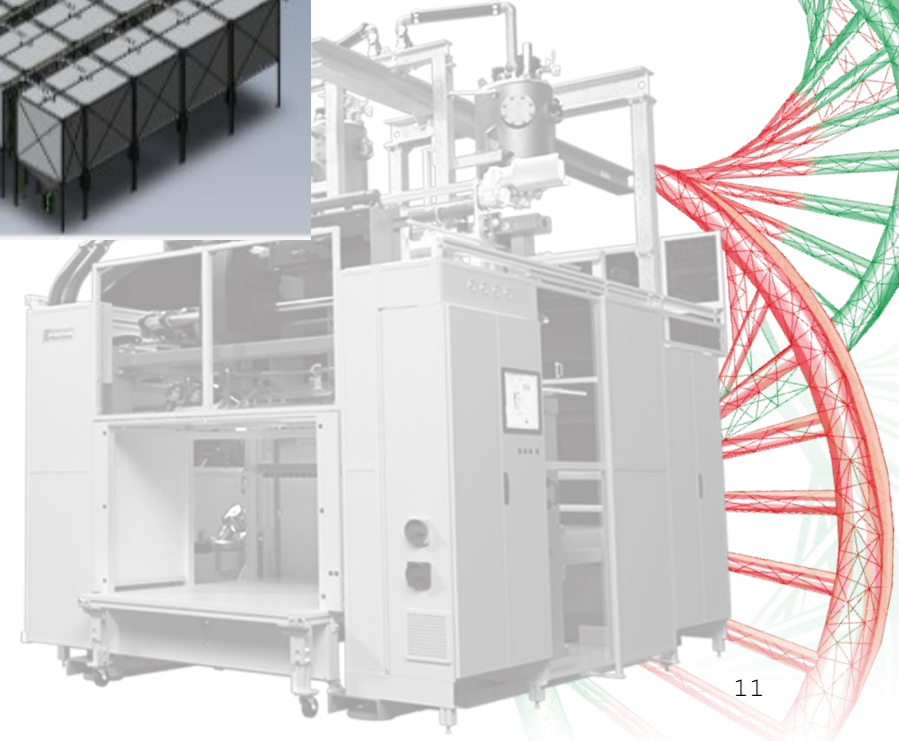
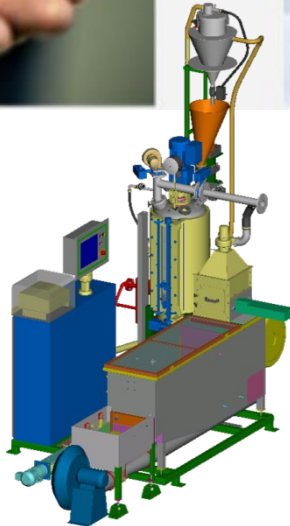
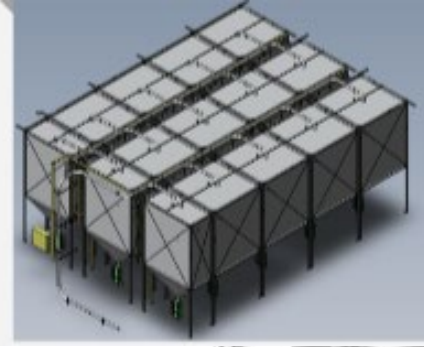
- Hammadde kalitesi
- Pentan oranı

## Ön Genleştirme

- Dansite
- Ürün kurutma derecesi

## Depolama

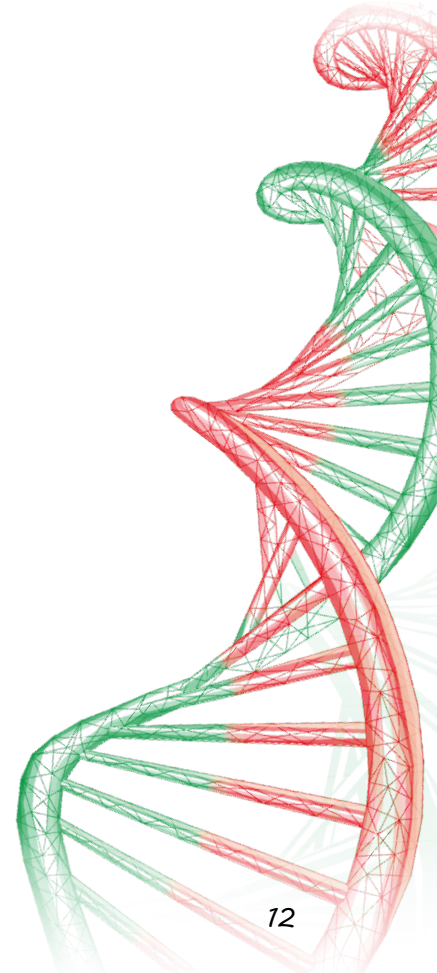
- Zaman
- Depolama tipi





# Enerji Tedariki – ne lazım?

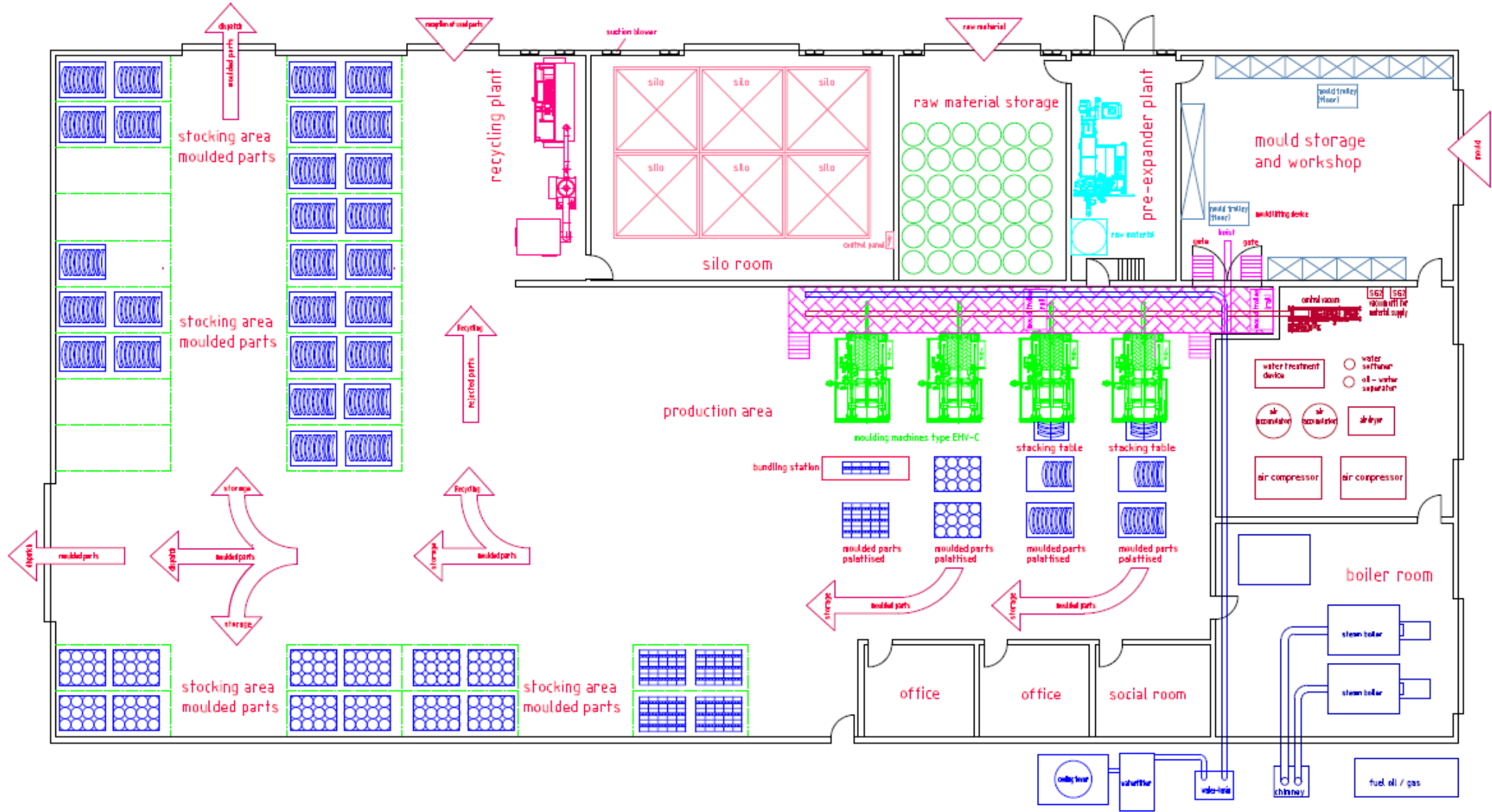
|                 |                                                                                   |                                                                                     |                                                                                     |
|-----------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------|
|                 |  |  |  |
|                 | <b>Buhar</b>                                                                      | <b>Su</b>                                                                           | <b>Vakum</b>                                                                        |
| <b>Basınç</b>   | 3,5 - 4,0 bar                                                                     | > 4,0 bar                                                                           | -0,6/-0,8 bar                                                                       |
| <b>Sıcaklık</b> | 147,9 - 151,8°C                                                                   | 40 - 50°C                                                                           | > 40°C                                                                              |



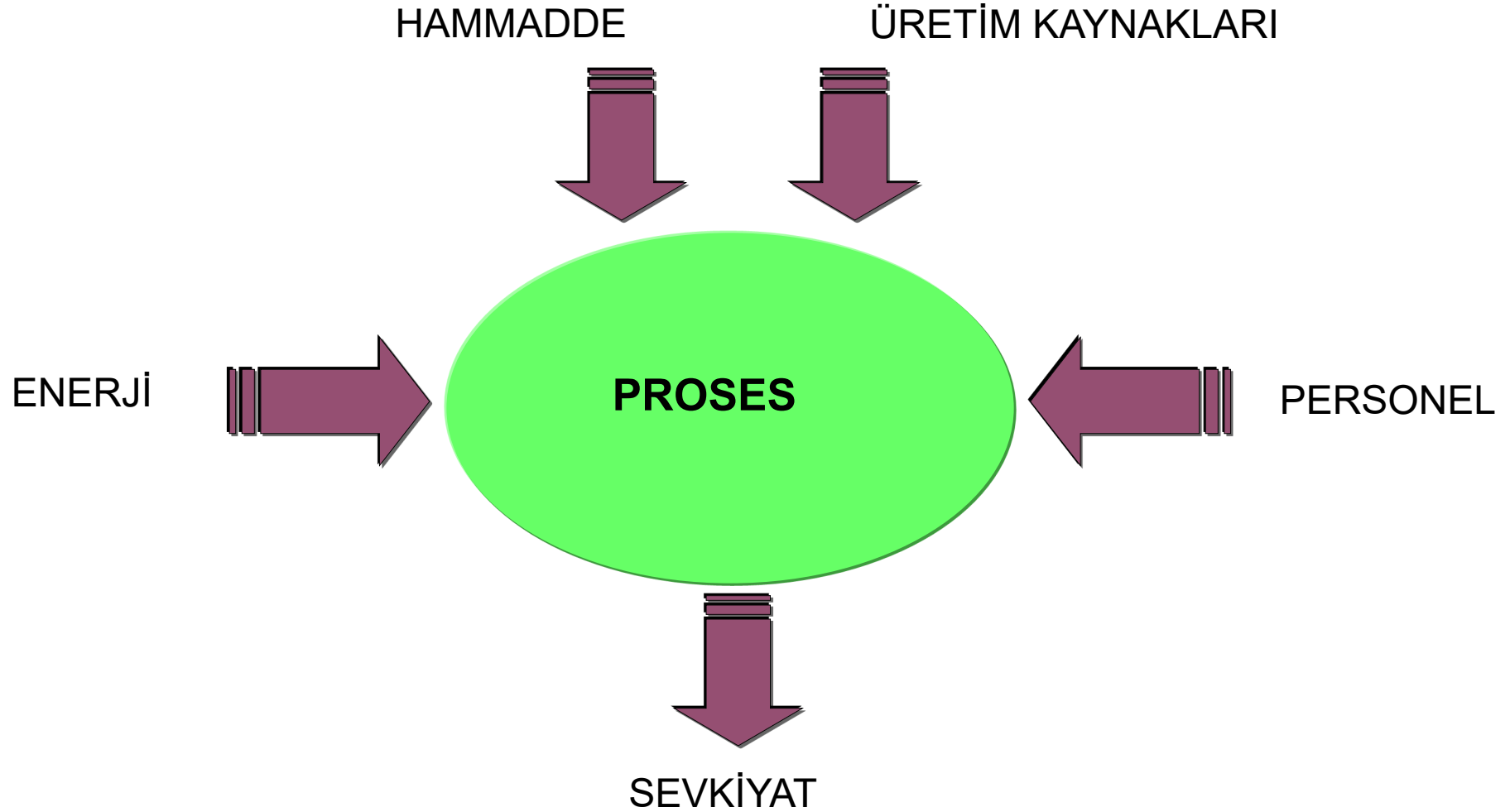
# İş Akışı

- Hazırlık prosesi
- Reçete Yönetimi
- Tecrübeli personel
- Bakım

# ► Yerleşme Planı



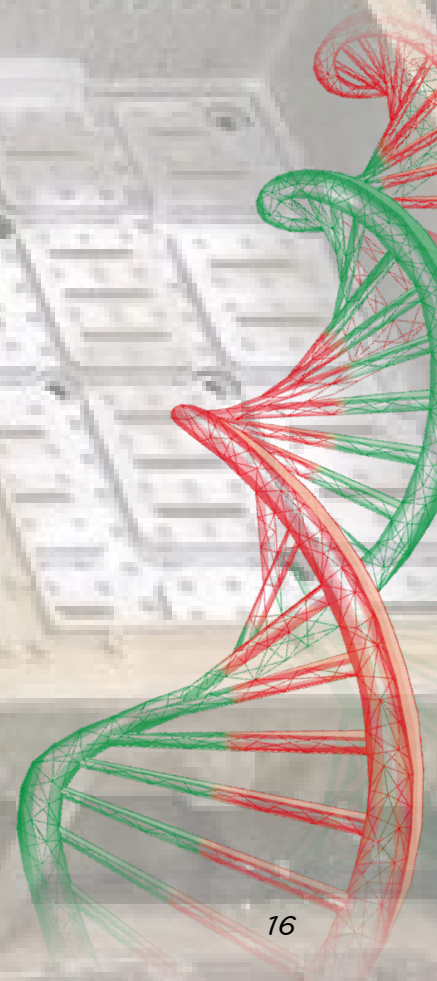
## *İŞ AKIŞI VE PROSES*

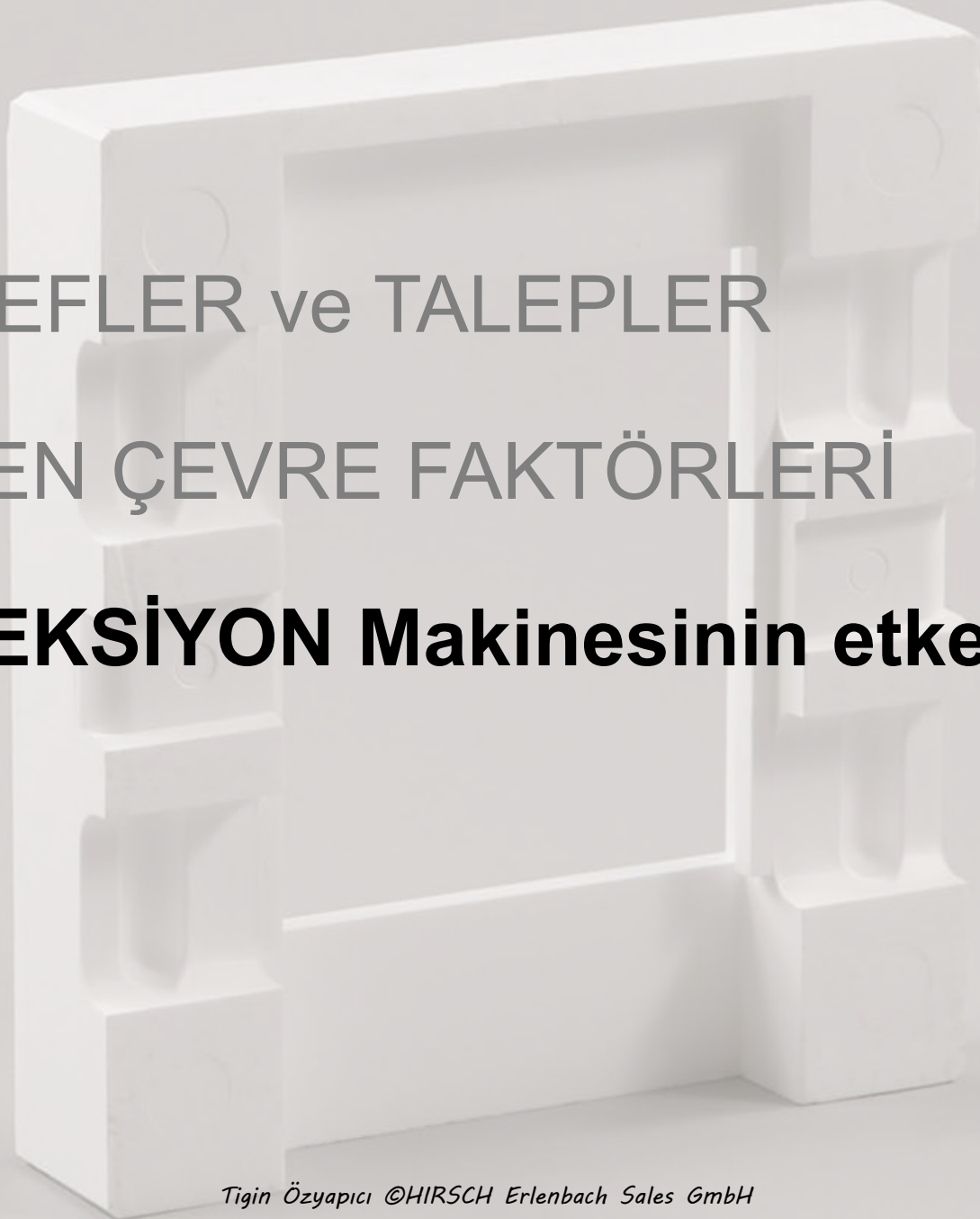
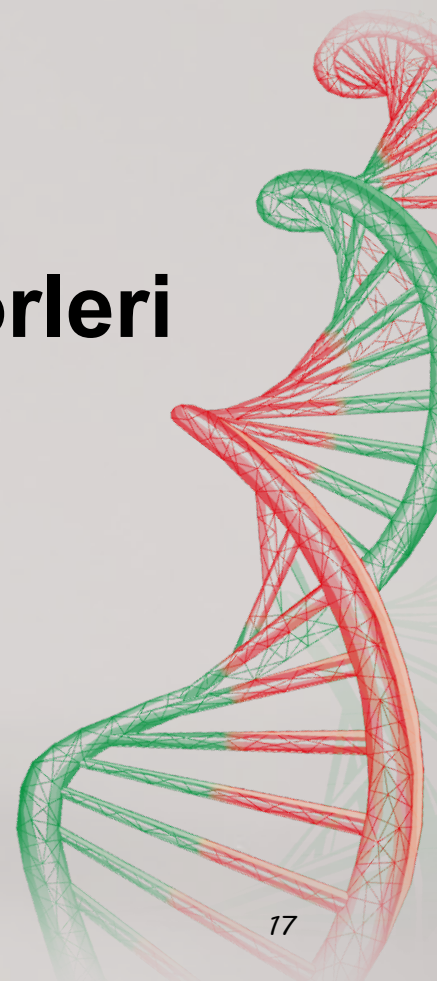




# Kalıp

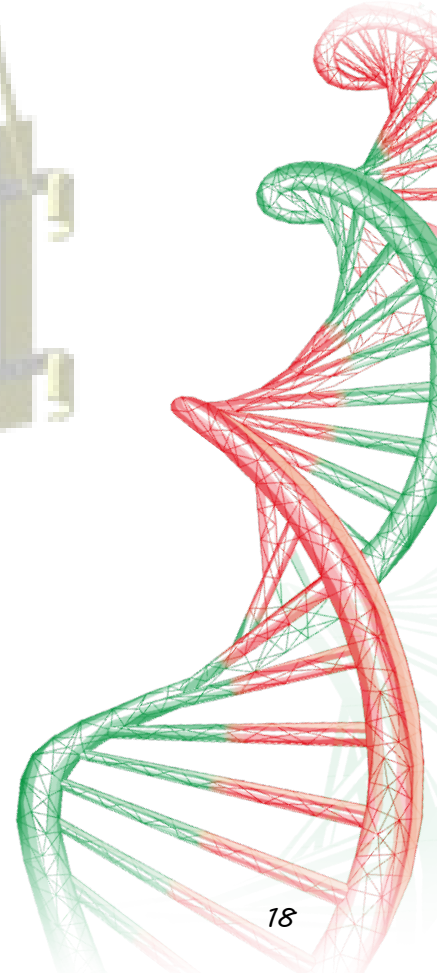
- Kavitelerin cidar kalınlıkları
- Kalıp derinliđi
- Dolum enjektörlerinin pozisyon seçimi
- Su deşarj kanalları



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  - **ENJEKSİYON Makinesinin etken faktörleri**

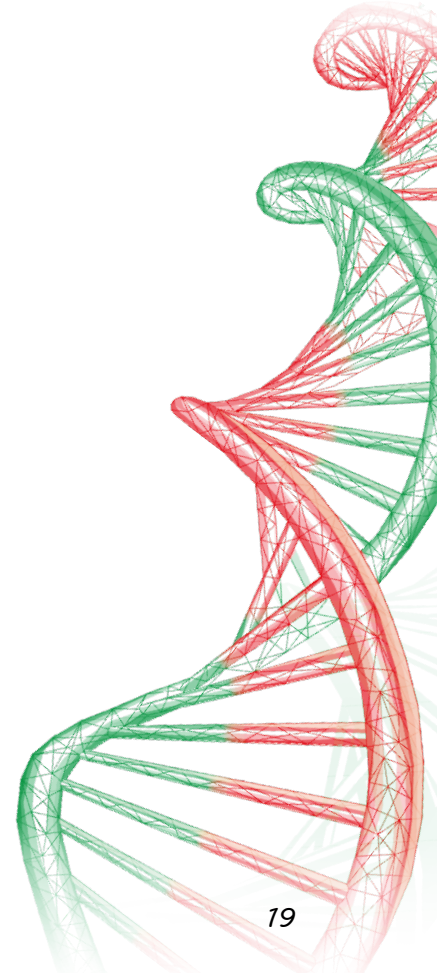
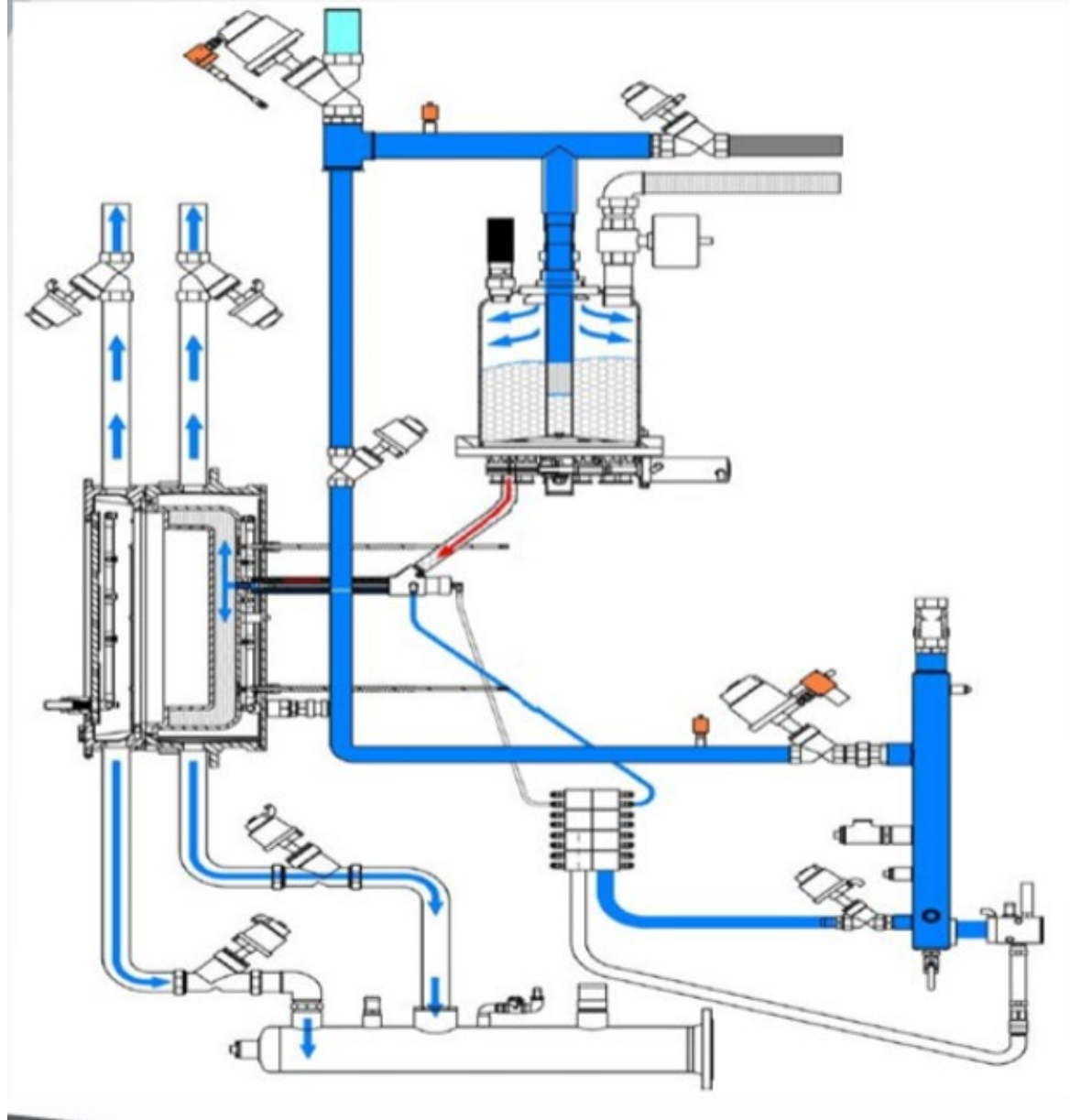
# Enjeksiyon makinesinin etken faktörleri

- Dolum
- Buhar uygulaması
- Soğutma / Stabilizasyon



# Dolum

- Proses

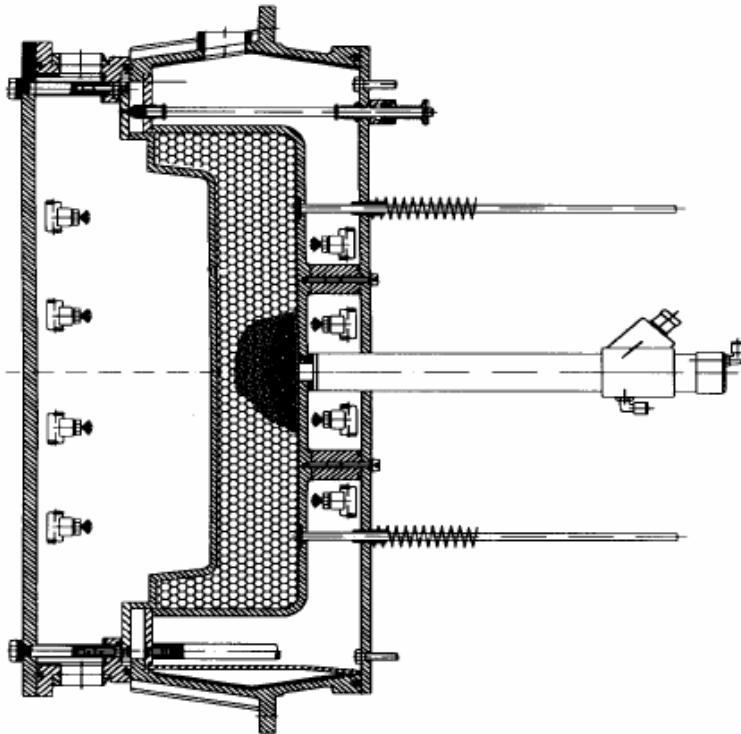




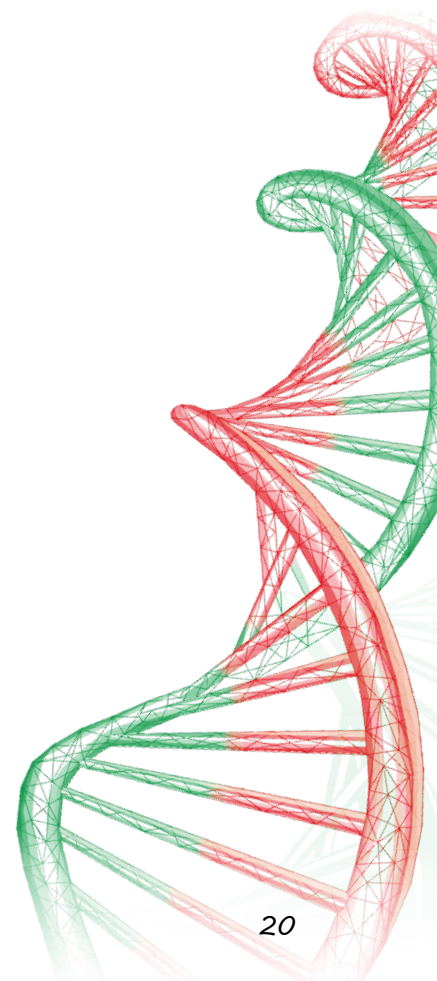
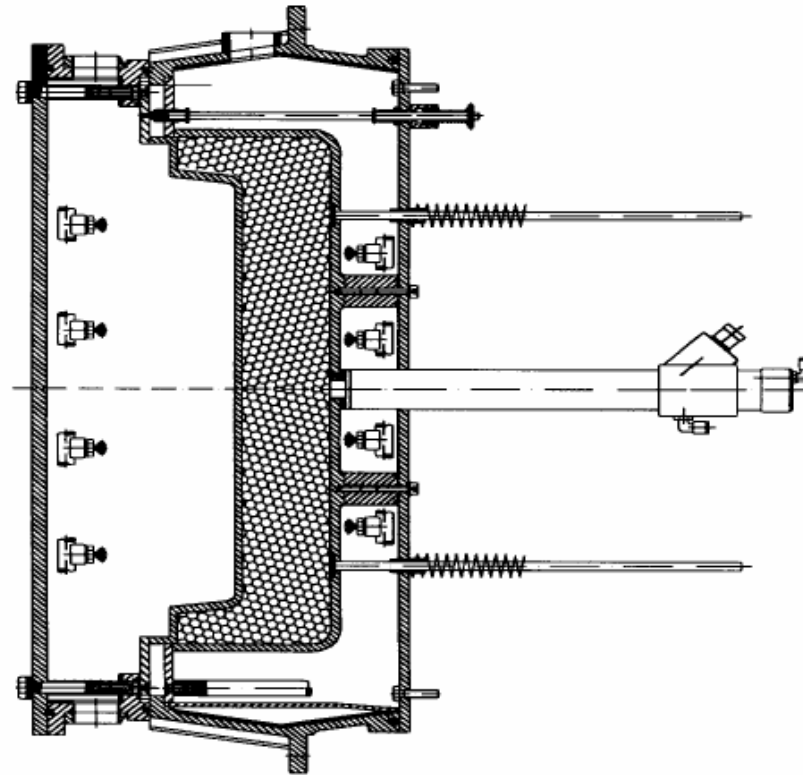
# Dolum

- Proses

Non homogeneous filling

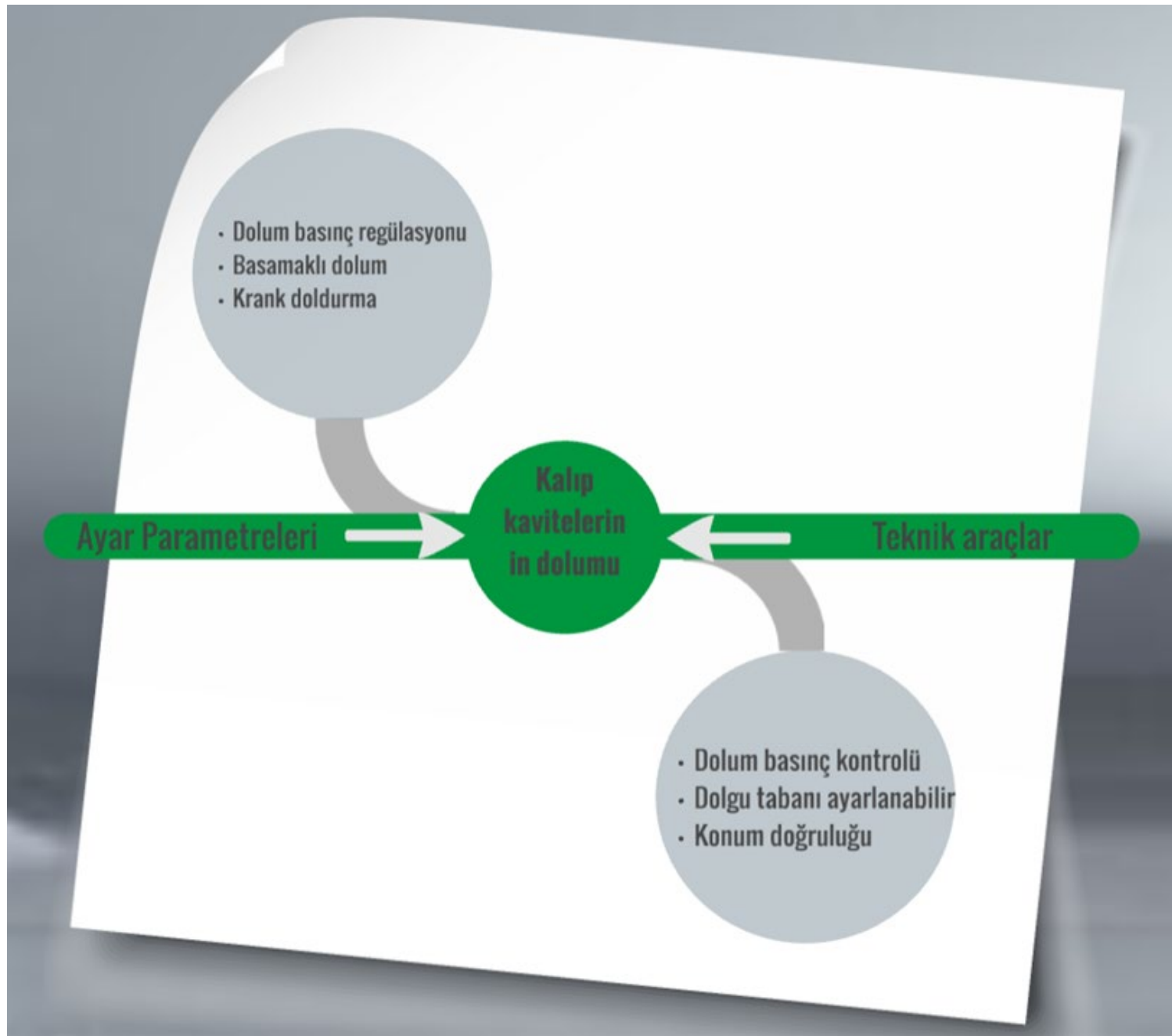


Homogeneous filling



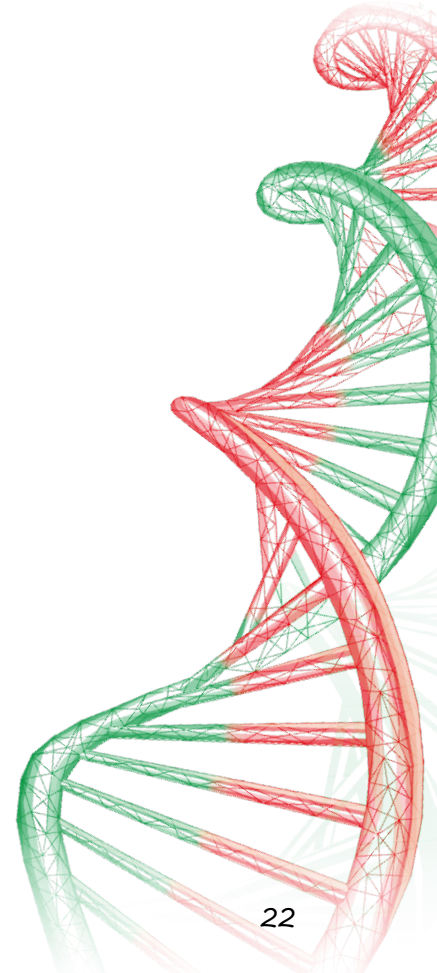
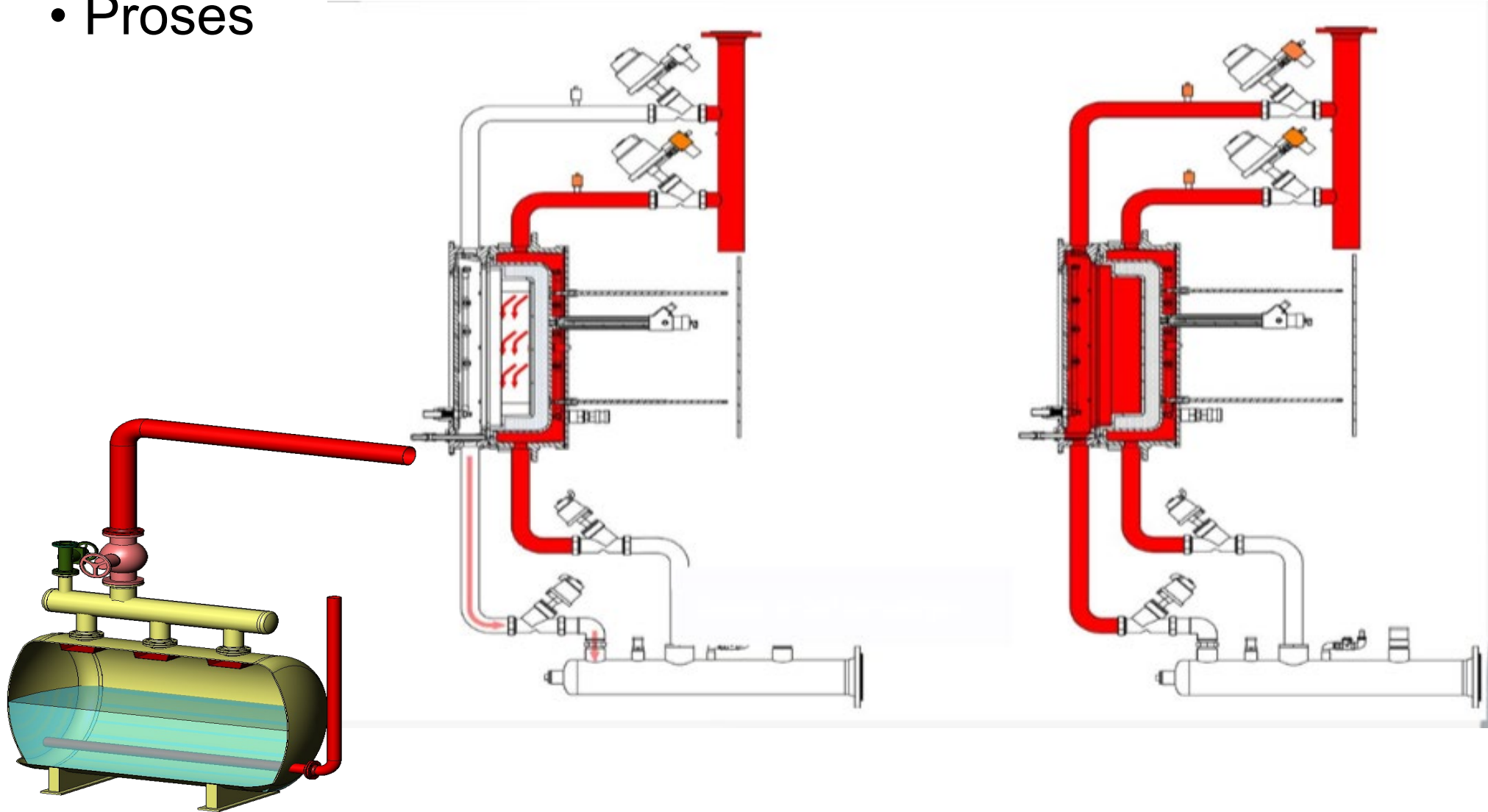
# Dolum

- Etkileri



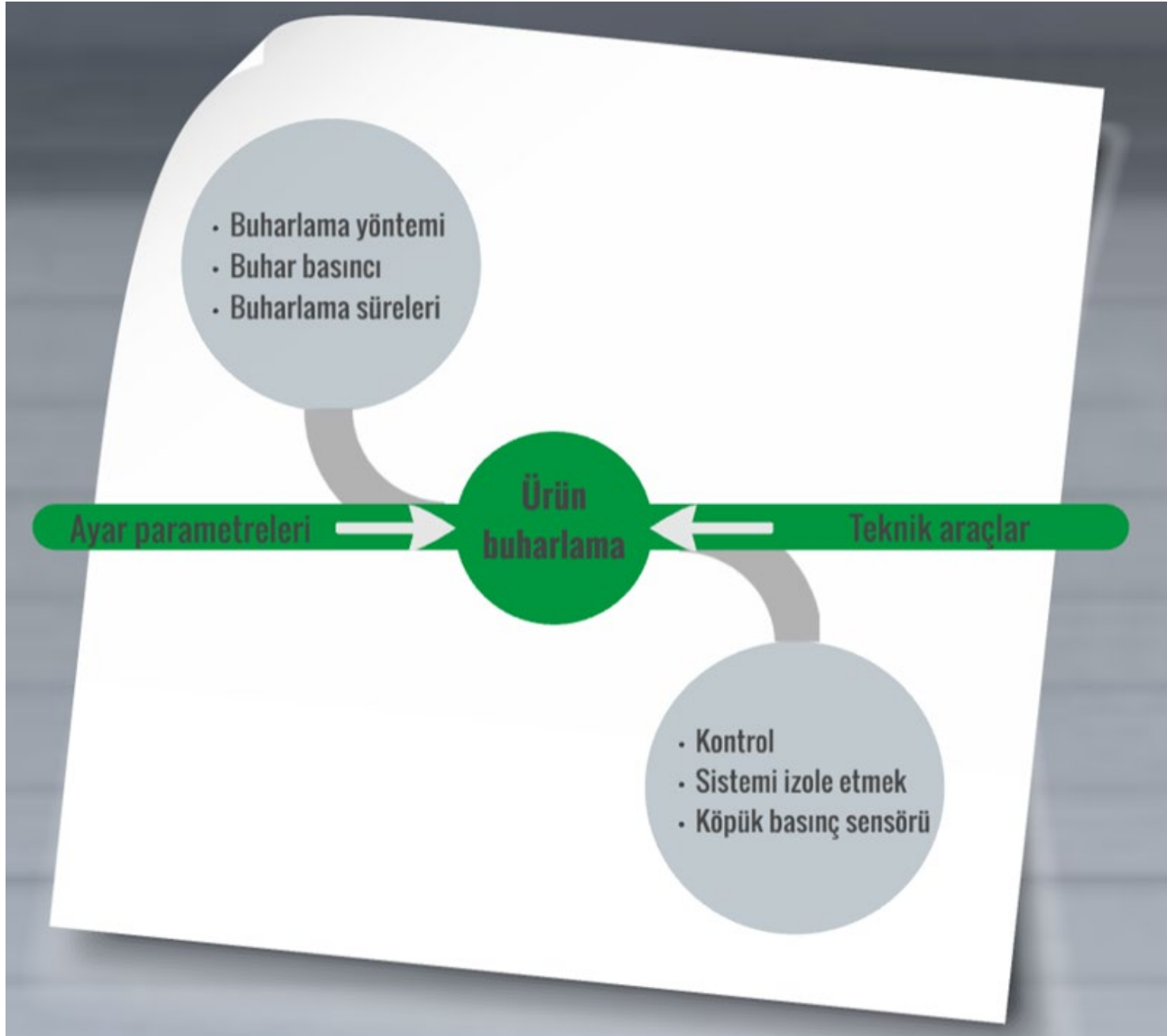
# Buhar

- Proses



# Buhar fazı

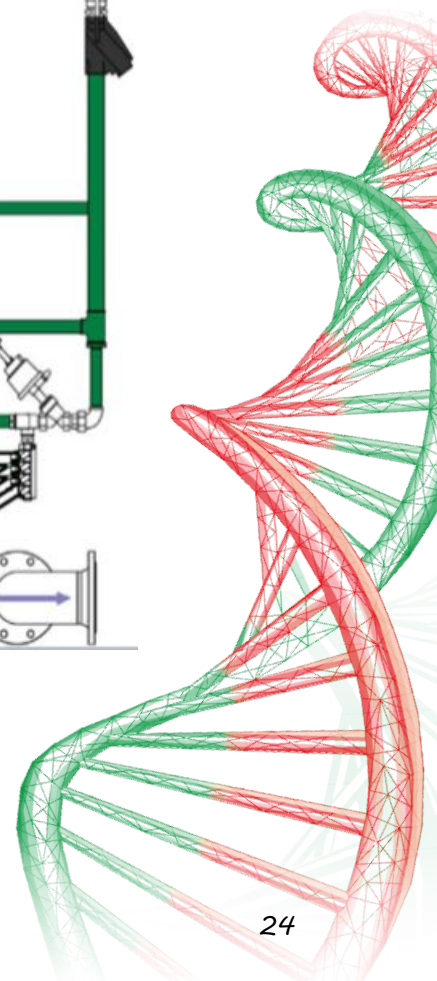
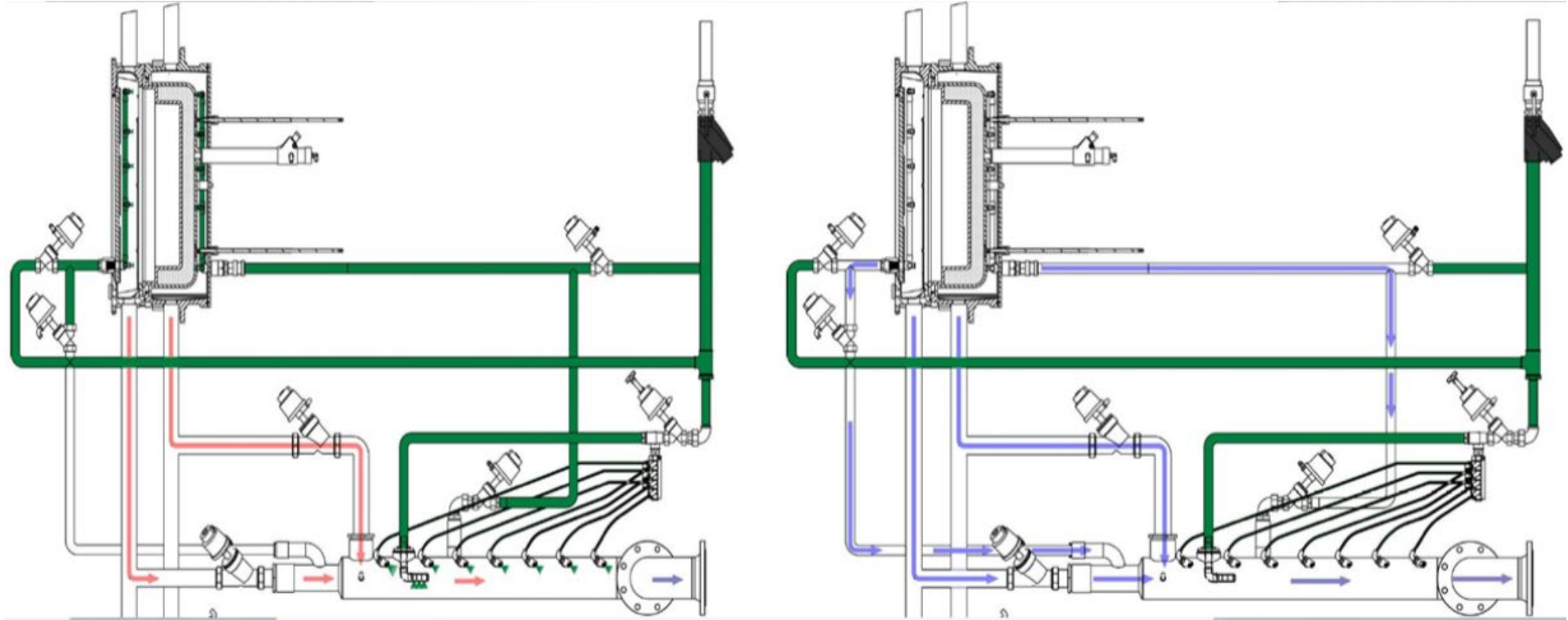
- Etkileri





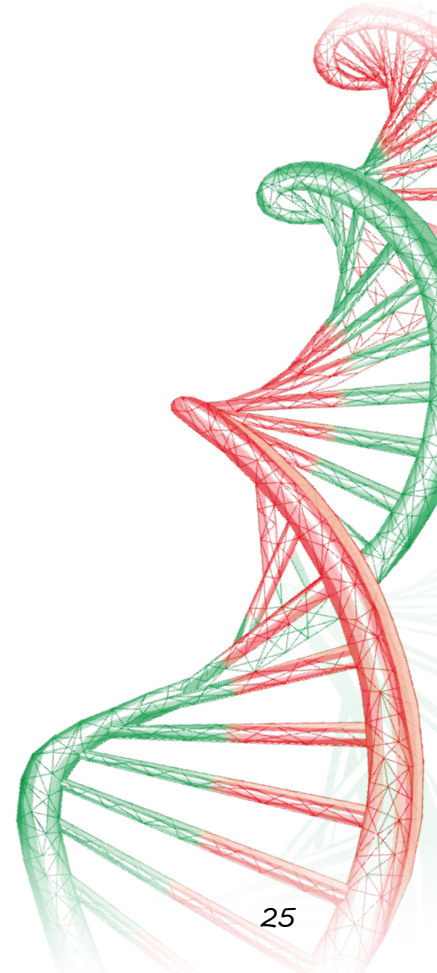
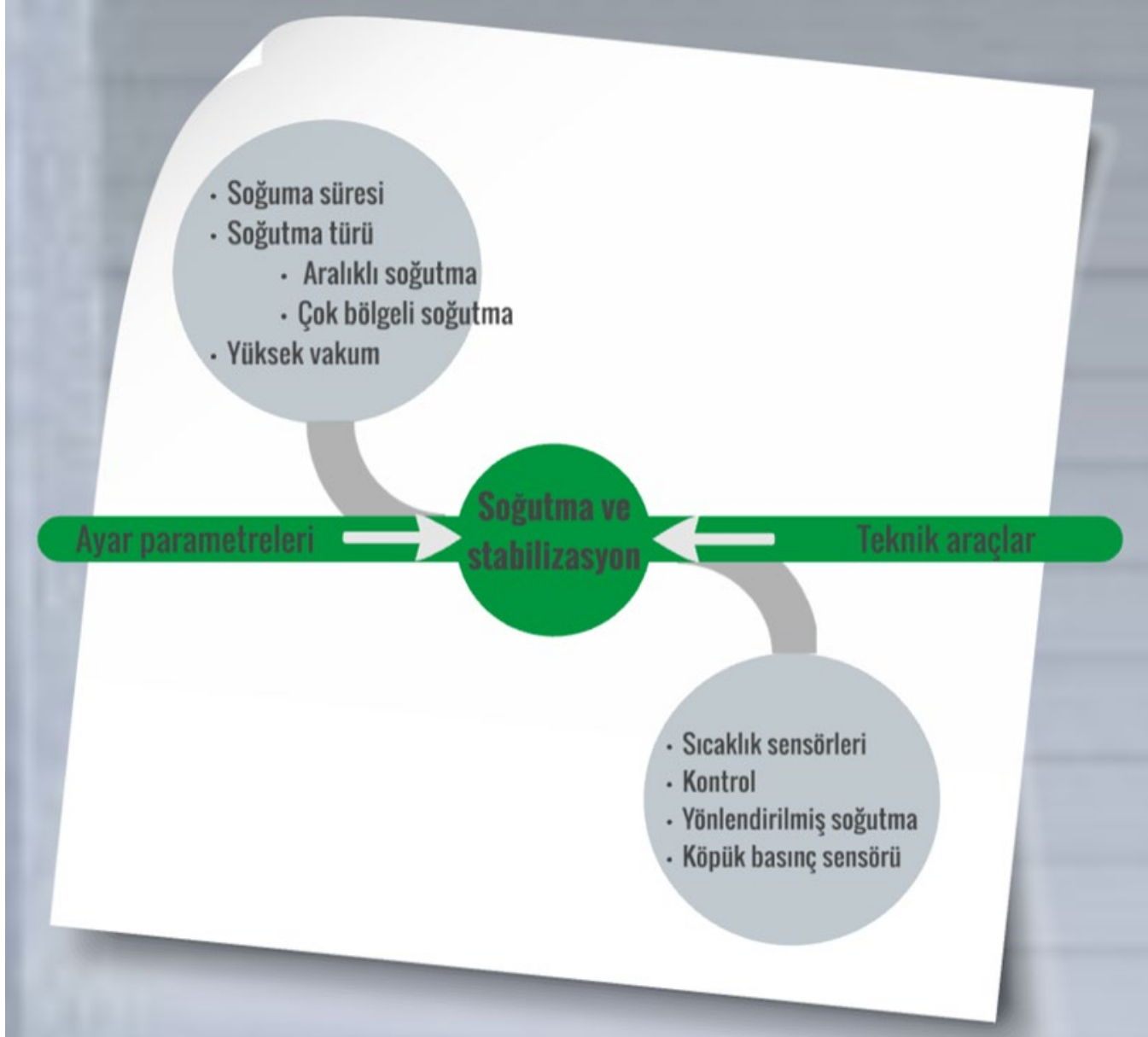
# Soğutma / Stabilizasyon

- Process



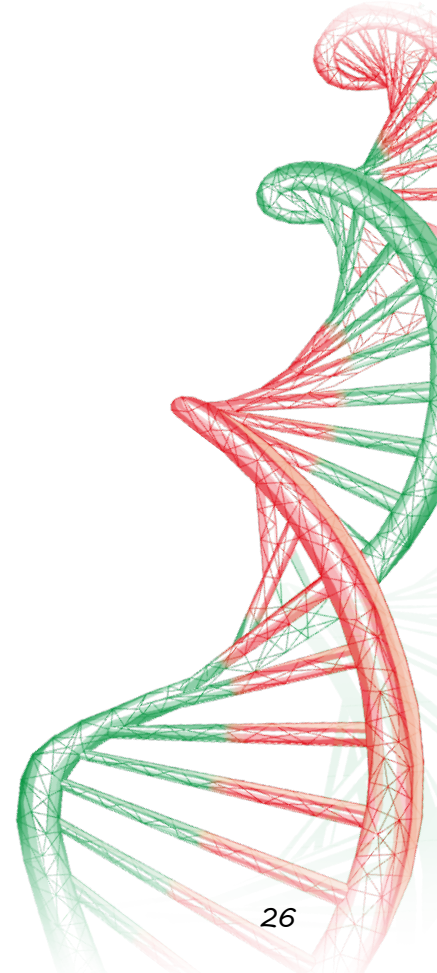
# Soğutma / Stabilizasyon

- Etkileri



# Değerlendirme

- Red oranlarınızı düşürün
- Makinenin boş zamanlarını azaltın
- Hammadde süreçlerini iyileştirin
- Ürün kalitesini yükseltin
- Üretim maliyetinizi düşürün
- Enerji tüketiminizi optimize edin

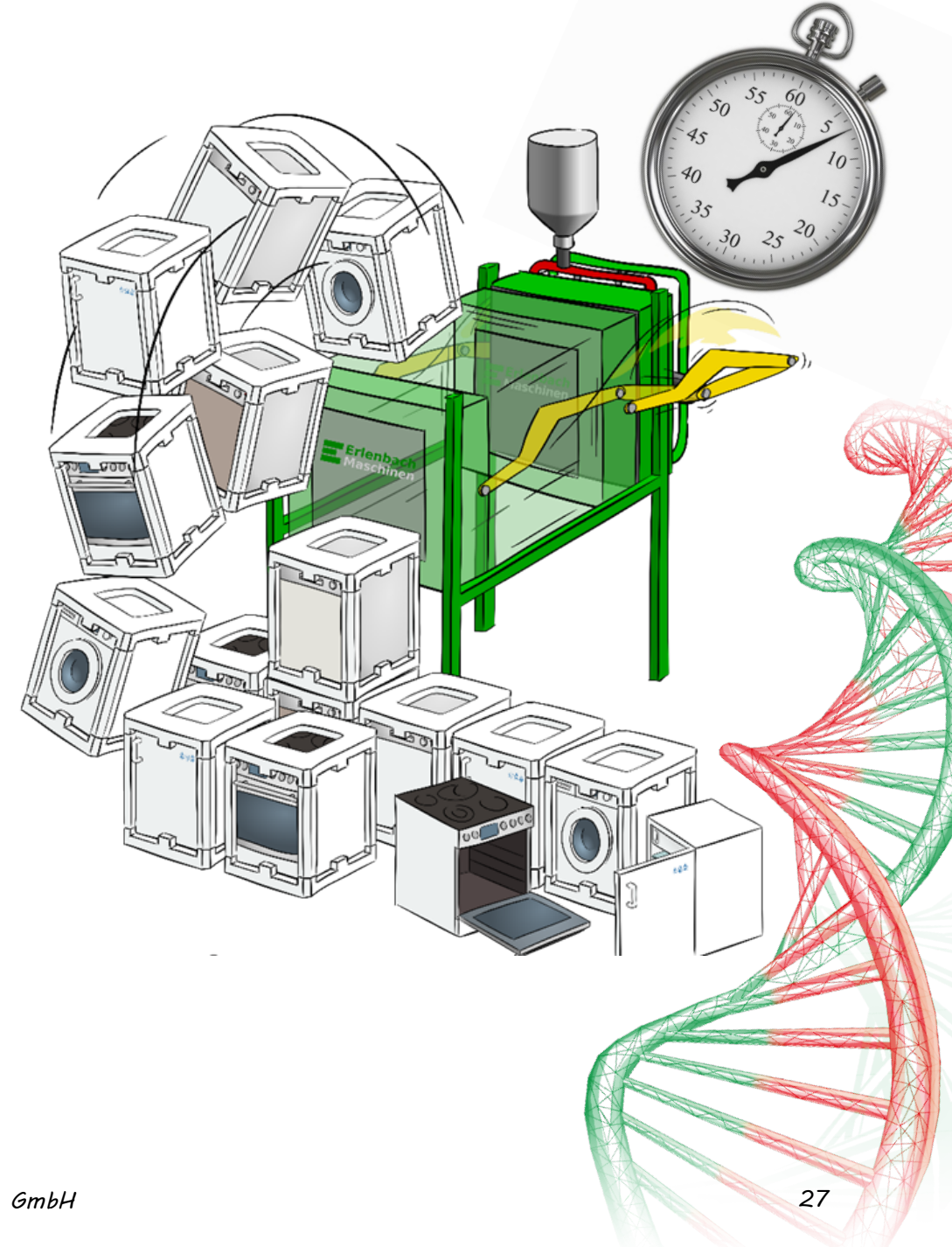




Bu

# balık kutusu !

4 gözlü kalıpta 40 saniyede üretilir.





**Erlenbach**  
**Maschinen**

Member of



- ***BENİ DİNLEDİĞİNİZ İÇİN TEŞEKKÜR EDERİM***
- ***Tigin ÖZYAPICI – ÖzhanMakine***

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